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VOL. CXXII.—No. 4134. APRIL 28, 1922.

UNIFICATION AND THE R.I.B.A. ELECTIONS.

THE forthcoming elections of the officers and Council of the R.I.B.A. suggest some considerations on the question of unification as an issue which will confront the electors, and it may be of service to indicate what they are. There is a certain danger to which the Institute, like other similar bodies, is constantly and seriously exposed. It is a danger so easily foreseen, so easily explained, and so very easily thwarted that the frequency of its untoward consequences is almost inexplicable. This danger may be described from one point of view as lack of expression, or the withholding of necessary speech. In other words, the fear is in most institutions of the kind that at moments of crisis or of decision the opinion of the majority, and what is often the case the opinion of, it may be, the more thoughtful majority, may fail to find utterance. A body such as the Institute is not organised for purposes of party warfare, and we have no intention of suggesting that a strong division of opinion between the members of such a body can necessarily be stigmatised as party manœuvring in the bad sense. But it is obvious that when a division of such a kind has once arisen, and when there arises with it the desire to give battle to decide issues by the arbitrament of voting, there at once springs up the risk that the very character of the society and of its constitutional methods may lead directly to a decision which is not the expression of the mind of the majority.

There should be no need to avoid plain speaking. The present Council is overwhelmingly in favour of unification, not as a whim, or a programme in the political party sense, nor by any means as an idle experiment; but as the obvious and long-considered wish of many members of the profession all over the country. A well-meaning, though we think mistaken, opposition is in the field, the activity of which our correspondence columns has shown; and while we welcome the expressions of the views of this opposition, desiring, as we always do, to place our columns at the service of those who have fair opinions to express, we are concerned that the facts on both sides should be known to the electorate. The most telling aspects of the case from one point of view may be put before the electors, and without parallel guidance from the other side the issue would be presented in a most one-sided way. For instance the R.I.B.A. electorate can be supplied with telling aspects of the case against unification and with none of the arguments in its favour, and yet the Institute headquarters would not be in a position even to make the suggestion, which we very strongly urge, that it is better and more loyal to vote than to abstain from doing so. It is easy to see that in such conditions an electorate of whom at the best of times only a trifling percentage exercises the vote can most easily be swayed to a one-sided, and it may be a wrong-sided, result.

We make no complaint against the leaders of the Institute for their abstinence from propaganda. It is of the very nature of the Institute that they should hold their hands, but this silence, however praiseworthy, is at least a great handicap to the cause to which they are pledged and to which we know they are devoting conscientious energy. The Council, we presume, will issue no programme, and for the reason already given: the Institute is not a body built on party politics. Its leaders and advisers, the majority of the Council, have but one object in view, *i.e.*, the good rule of their community, the interests of the profession, and they cannot enter the arena and conduct a campaign as any other body of men may do. This rule, though it has its disadvantages, is, we believe, a wholesome one, which is in the best interests of the best feelings which should dominate such an assembly. But it lies with the members to see that the votes they give are not thoughtlessly dominated by the only voice that makes itself heard.

As our readers know, we have our own views on the subject of unification, and these we have advocated from the early beginnings of the movement. In fact, we should not be far from the truth if we were to claim that those early beginnings came to birth in our columns. But on this we do not here insist; we prefer to plead no partisan wish; but we do plead as earnestly as a journal which is deeply interested in the development of professional brotherhood can plead that the voters in the Institute electorate will use their eyes and their ears and their votes. The crisis may not be an overwhelming one. The Institute's life does not hang on this decision, but the crisis *is* a crisis and the welfare of the Institute does depend on the exercise of discriminating decision by its members and on the expression of that decision. The voters will find ready to hand the advice of the Defence Committee, a Committee whose name—its second name, by the way—is chosen with great skill. It is a name which implies that it stands like a champion guarding the citadel of the Constitution against a party of revolutionary adventurers. But let the voters assure themselves of the facts before they yield to arguments from one side, let them read what stands written on the unification side of the case, even if they receive no guidance on that side from election literature, and let them study, if they will, the names of the leaders. We venture to think they will be hard put to it to find among those seniors or among those men of middle age who have pledged themselves to the attempt to bring about the unification policy the "adventurers" whom the Defence League appear to be in fear.

Our hope is that the electorate will for once be moved to vote with seriousness and in great numbers. And we go beyond mere hopes. We venture to urge the electorate to support the policy of the Institute Council in its efforts to obtain that unification of the profession which we believe is desired by the majority of practising architects. We cannot assume any mandate to help the Council in this matter, but we can and do assume the function of helping any reader who may be in doubt and who may be wishing to help the Council's policy by giving him such guidance as it may be in our power to offer—guidance which the Council itself is not likely to be willing to give—and we shall in subsequent issues indicate those reasons why, in our judgment, the Council of the Institute should be supported at the present time.

We now give two hints. Any list of nominees which may be offered on behalf of the opposition to the unification movement will give names of those who are hoping to disturb the success of the scheme to which a very large number of thoughtful well-wishers of the Institute are giving their best encouragement. And the other hint is this: The policy of the Defence League has been tersely expressed by some of its supporters as follows: "Registration must precede unification, and registration can never be obtained." Is it not a rather dreary flag under which to do battle? One thing is clear: Unless a considerable number of members take the trouble to vote, an issue may result which the majority of members of the profession may regret

NOTES.

Architecture at the Academy. The architectural gallery at the Academy looks well, and the exhibits seem to have been hung to advantage; but the quality of many exhibits is such that those who have sent work quite above the average and had it rejected will naturally feel chagrined. There is no doubt that architects with several years' of good reputation behind them do expect (rightly or wrongly) special consideration for drawings on which they have spent time and money. It is certainly rather difficult to imagine what reasons guide the Hanging Committee sometimes. No one will grudge Sir Edwin Lutyens his fine exhibits, which occupy over eighty square feet of wall space (over eight yards' length on the line) for such a subject as Delhi cannot be dealt with in a small space, and the drawings exhibited are all to a small scale. But, of course, big drawings like these, which are readily welcomed at the Paris Salon, necessarily exclude many smaller things of interest in such a miserably inadequate space as the Academy devotes to architecture. Sir John J. Burnet, Sir Aston Webb, Sir T. G. Jackson, Mr. Gilbert Scott, Sir Edwin Lutyens, Sir Robert Lorimer, Sir Reginald Blomfield, and Sir Ernest George, are the Academy members who exhibit, the latter in the water-colour room only. In subsequent issues we hope to note the exhibits in detail.

Dutch Housing. An address delivered on Monday, at the Architectural Association, by Mr. Keppler, Director of Housing at Amsterdam, introduced strange forms of architectural expression, only to be described as "cubist architecture." Many Englishmen naturally look askance at such architectural pranks, considering them as freakish expressions that do not accurately reflect the spirit of the time. This would certainly be so were the houses being erected in England, but we may safely assume that the spirit of the age in Holland is very different from that existing here, otherwise such architecture could never come into being, especially under any form of State aid. There must exist in Holland a romantic outlook, of which the bizarre and the grotesque are the true expressions—but Holland has some of the trouble with which we are familiar; Mr. Keppler assured us that the efforts of the "jerry-builder" to imitate the work of the cubist architect paralyse description, and this is easily comprehensible. There can be no doubt that the genuine phase of this new departure possesses real merit, that the architects are not only cubists but artists as well, and there is something to be said for giving free rein to the inspiration of the time. If the result is strange, occasionally monstrous, it can only be a reflection of the strange and monstrous times that are bringing such buildings into existence.

Flat Roofs. In one respect, at least, as Mr. Niven pointed out in the discussion, we might profit by these Dutch experiments. The flat roof is not new in this country; the flat-roofed houses at Braintree are a well-known modern example, but it has never become popular. With the introduction of reinforced concrete, the flat roof became a practical possibility, one that has not yet received its full recognition. There exists a prejudice against it, but, when one considers that a sloping roof hidden behind a parapet might as well be flat so far as appearance is concerned, one can see that there is nothing revolutionary in the proposal; the effect could be architecturally pleasing, while the roof itself would place additional space at the tenant's disposal.

Octavia Hill's Principles. Among the points mentioned, that concerning the administration of these large municipal estates is especially interesting, since the system of employing women managers is, Mr. Keppler told us, directly inspired by the principles introduced and adopted by Miss Octavia Hill in her pioneer work. The startling success of these methods in house management is generally acknowledged, while the details are still imperfectly recognised or understood, and many of those who listened to Mr. Keppler must have felt abashed that they had to renew their acquaintance with her system of trained women rent-collectors *via* Amsterdam. Thirteen "managers" are employed in the administration of the municipal house-property, not only for the actual rent collection but for minor supervision and upkeep, and, from the tone of Mr. Keppler's remarks, it was clear that, based on Miss Hill's ideal, their office is not so much official as human in its widest and yet most intimate bearing. Mr. Keppler mentioned informally that rents varied from 30s. to 50s. a week, but as labourers' wages are higher than in England the percentage absorbed by rent is probably much the same as here. Local authorities and others confronted with the problem of administering our own new estates may usefully be reminded of the recent publication, by

THE STAIRCASE HALL.

Royal Air Force Club, Piccadilly.

Sir Aston Webb, P.R.A., & Son, Architects. (*See p.* 646.)

(*See p.* 653.)

Messrs. Unwin, of "House Property and Management," which describes Miss Octavia Hill's principles and work.

Private Enterprise.

Sir Kingsley Wood, in an article on future housing recently published in *The Times*, suggests that the developed land now at the disposal of local authorities, which is ripe for easy building, should be made available for the erection of houses by leasing it, on tempting terms, to private builders, and he adds that proper conditions would be imposed and public interests safeguarded. It would be most unfortunate if the new housing schemes were to become, so to say, islands of better designed houses surrounded by still newer work that failed to keep up the higher standard. Some kind of assistance to private enterprise will, no doubt, be necessary to start it again, but we hope that any kind of assistance, however slight, will only be given subject to real safeguards to the public interest. The Ministry of Health spent millions of public money on subsidising houses for private persons that were not necessarily up to the standard, and we hope that the Government will not repeat this mistake by any further form of assistance that carries no real and adequate safeguards. If public resources are used to further private building, the public has a right to expect that its money will be used with a due sense of responsibility, to the improvement of housing, and not with the sole object of getting any kind of house built regardless of its neighbours and of the community as a whole.

The Mock Picturesque.

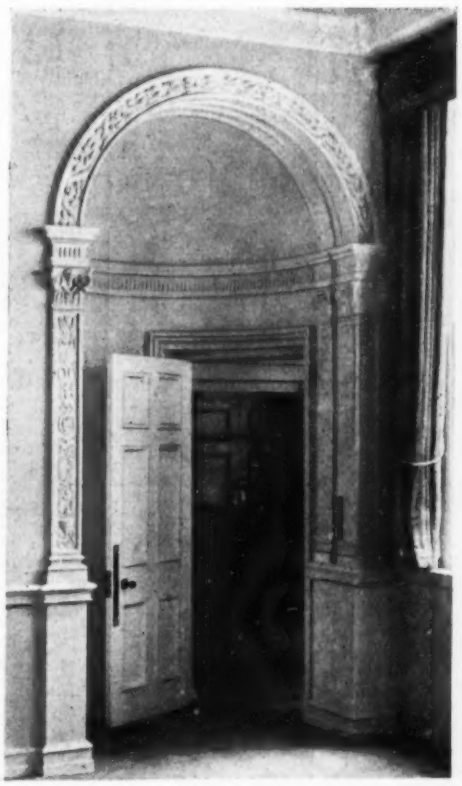
At a time when attention is being given to architecture on the stage, it is disappointing to find, in the splendid Building Exhibition at Olympia, that many men, more closely connected with architecture than is the stage producer, were still pandering to the supposed craving, on the part of the public, for the mock picturesque. It need hardly be said that examples of genuine half-timber are both beautiful and valuable, but what can be said in favour of boards nailed on to a wall to imitate half-timber? They are a constant source of trouble and expense in upkeep; they are unpractical, and they violate the first principles of architecture. There was a great deal too much of this at an otherwise unusually good exhibition, the chief offenders being drawings and catalogues. Of course, we do not criticise the application of this stuff for effect, as a temporary expedient in a building exhibition, but only to the offer of such work as a permanent method. It is well known that the exponents of one art usually exhibit a fearful ignorance of any other art; for example, the architecture on the Queen's Hall Promenade Concert Programmes is past description. It may be argued that the music provided at many architectural functions is no better, but there is some excuse for this, inasmuch as such functions are primarily intended as conversaziones when good music would be out of place, since it could never get the attention it deserves. The failure of one art to understand another is explicable, but it is harder to see why a man who wants to illustrate a new form of building appliance should show it in surroundings which, architecturally speaking, are deplorable.

Mr. Brangwyn's Art Gallery.

We shall, no doubt, in time have an opportunity for seeing photographs of this Gallery, which has been built in Tokyo, Japan, and is the gift of Mr. K. Matsukata, the well-known shipbuilder. The particulars of the work given in a contemporary seem the account of a sympathiser rather than a critic. We hear, for instance, that there are "four glowing stained glass windows," but we are not told anything revealing about them. Mr. Brangwyn, in planning the Gallery in such a way as to make use, to the full, of the beautiful surrounding prospects, has recognised the importance of adding this charm to his building. There may be some hesitation in the professional mind at a painter entering thus into the field of architecture, but, on the other hand, there is sometimes a discovery and freshness of approach, and also a freedom from precedent, which is not without gain in hands competent enough to make full use of the opportunity. The quality of mother-wit has presented us with some remarkable results, where professional experience and routine have failed, though we hesitate to accept the view that the task is one more suited to the artist than the architect.

R.I.B.A. Poster Competition

An encouragement of decorative design is being offered to students in the competition instituted for a design for a poster by the Royal Institute. It is to be open to students of architecture who are in their fourth or fifth year in any "recognised" school of architecture, and each school will be requested to select the three best designs executed by its students and to forward them for examination by the jury of the following: Mr. Halsey Ricardo, Professor Adshead and Mr. Alfred Cox. The object of the poster is for use on the premises of the Institute for advertising exhibitions of drawings held from time to time in the Institute Galleries. We hope the result will be such as to enable the poster to be used with satisfaction. If the winning design be found good enough to be actually used one ventures to suggest the fee might be doubled without any undue liberality.



A DOORWAY.

Royal Air Force Club, Piccadilly.

Sir Aston Webb, P.R.A., & Son, Architects.

(*See p.* 646.)

GENERAL NEWS.

Professional Announcements.

Mr. W. L. Trant Brown, F.R.I.B.A., F.S.I., of the firm of Messrs. Trant Brown & Brightiff, architects and surveyors, 332, High-road, Kilburn, N.W.6, has been elected Chairman of the Willesden Urban District Council.

Mr. J. Edward Rowlands, M.S.A., Lic.R.I.B.A., architect and surveyor, late of 20, Exchange-street East, Liverpool, informs us that the working arrangement existing between Mr. Edmund Ware, architect and surveyor, of the same address, and himself is discontinued as from Apr. 6, and he will continue in practice at 10, North-crescent Chambers, 3, Lord-street, Liverpool.

Mr. H. Dighton Pearson, F.R.I.B.A., and Mr. Horace Field, F.R.I.B.A., have removed from 59, Berners-street to 5, Gower-street, W.C.1. Their telephone number remains the same, Museum 2682.

Franco-British Union of Architects.

The second "Séance - Générale" of the Franco-British Union of Architects will take place at the rooms of the Société des Architectes Diplomes, 59, rue de Grenelle, Paris, on Friday May 12 (not May 13 as previously stated). The chair will be taken by M. Louvet, President of the Union, at 3 p.m.

The programme for British members taking part in the visit will be as under:—

Thursday, May 11.—Members will leave London (Victoria, S.E.C.R.) at 11 a.m. for Paris, arriving at 6.49 p.m.

Friday, May 12.—3 p.m Séance-Générale de l'Union, 59, rue de Grenelle. On the termination of the meeting members will be entertained to a "*thé intime*" by the S.A.D.G.

Saturday, May 13.—5 p.m. Visit to the Salon by invitation of the Société des Artistes Français. Members will meet at the principal entrance, Avenue Alexandre III, at 4.50 p.m.

7.30. British Members will be entertained to dinner by the President and Council of the S.A.D.G.

Sunday, May 14.—British members return to London.

The headquarters of the British Section, while in Paris, will be at the Hotel Lutetia, Boulevard Raspail, where special terms have been arranged for members.

A representative collection of architectural drawings, some 70 in number, has been sent to the Salon of the work of well-known British architects, and these will form a special section in a room specially allocated to them.

Sequel to Church Fire.

The vicar of All Saints' Church, Petham, near Canterbury, is issuing an appeal for subscriptions to a fund for the restoration of the church after the recent fire. The restoration will be undertaken by the Canterbury Diocesan Surveyor, Mr. S. W. Gaunt, F.R.I.B.A. During the examination of the walls there were discovered, beneath the layer of plaster, paintings of two consecration crosses in colours, finely preserved, probably of the thirteenth-century period. It is anticipated that from these it will be possible to determine the approximate date of the consecration of the church. Arrangements have been made for the careful removal of all the plaster, and other interesting and, from an archæological point of view, valuable discoveries are expected.

Wetherby War Memorial.

The Earl of Harewood, Lord-Lieutenant of the West Riding of Yorkshire, unveiled on Saturday last the war memorial which has been erected at Wetherby, near Leeds. It includes a winged figure of Victory in bronze, holding aloft in one hand a laurel wreath, and having a sword resting on the point in the other. The figure is the work of Mr. L. F. Roslyn.

Obituary.

Mr. G E. T. Laurence, A.R.I.B.A., of London, whose death recently occurred, was, until recently, sole architect to the Swansea Education Authority, in which capacity he had acted for thirty years. He first became associated with Swansea in 1891 as the successful competitor with the plans of the Brynmill Schools, and was also responsible for the architectural work connected with the Brynhyfryd, Danygraig, Hafod, Manselton, Pentrepoeth, St. Helen's, St. Thomas', and Neath-road Schools, the modern portion of the High School for Girls, and the Swansea Training and Technical Colleges.

New U.D.C. Chairman.

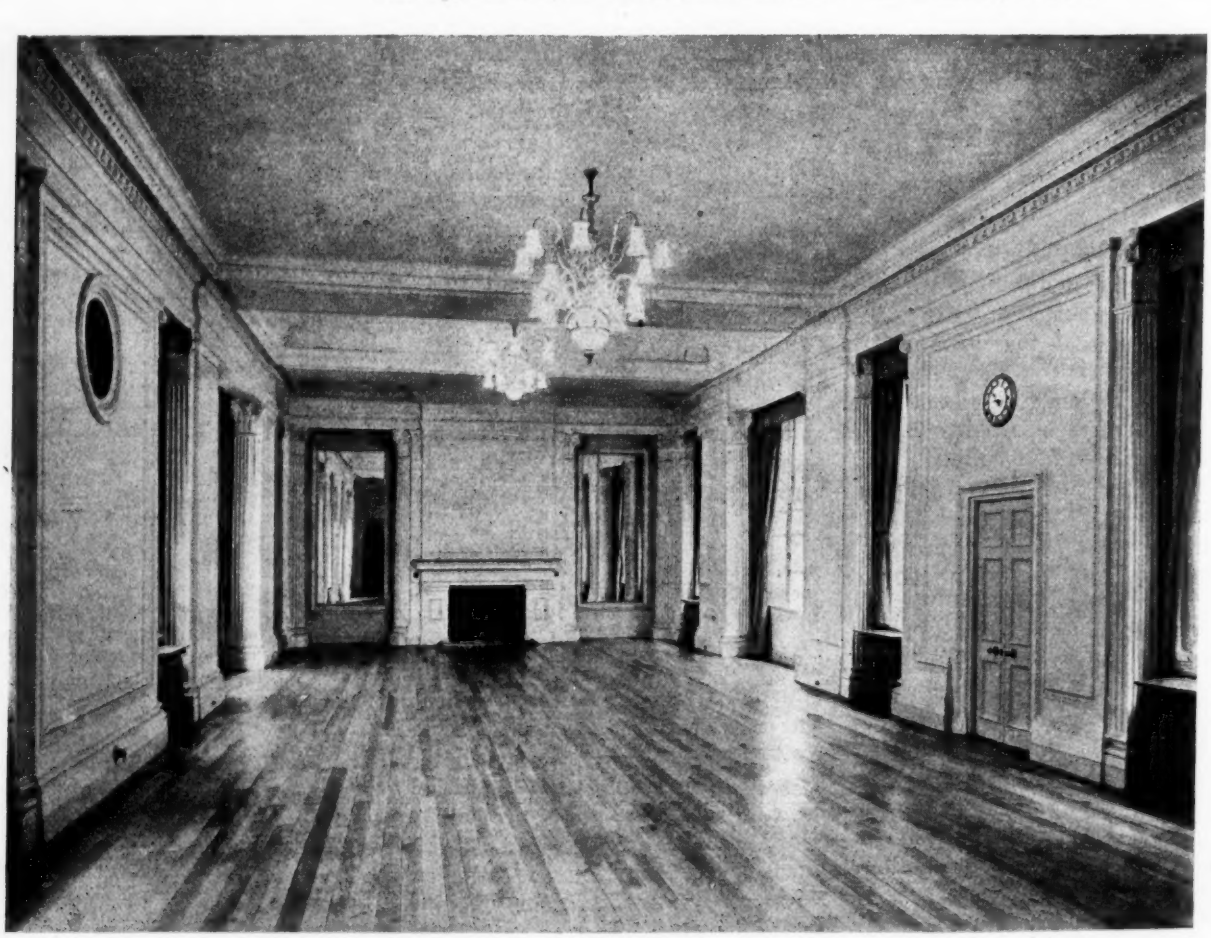
At a meeting of the Llandudno Urban Council recently, Councillor Arthur Hewitt was unanimously elected chairman. Councillor Hewitt is a well-known architect in North Wales. He was mainly responsible for the development of the West Shore, and was also the architect for the erection of the "Palladium." He is also the architect to the Llandudno Pier Company, of which he is also a director. He was first elected to the Council seven years ago, and has been chairman of the Housing Committee.

New A.R.A.'s.

At a General Assembly of Academicians and Associates held on Friday last, Mr. Gerald F. Kelly, painter, Mr. Sydney Lee, painter, Mr. Charles Ricketts, painter, and Mr. Algernon M. Talmage, painter, were elected Associates of the Royal Academy.

Architects' and Surveyors' Assistants' Professional Union.

Subject to ratification by the Branch Committees, the Executive Council of the Architects' and Surveyors' Assistants' Professional Union has appointed Mr. John Mitchell, jun., as full-time General and Organising Secretary of the Union. Mr. Mitchell, who is a quantity surveyor, has for the past two years acted as Honorary Divisional Secretary for Scotland, and has been largely instrumental in establishing the Union there. He will begin his duties on May 1, 1922.



THE BALL ROOM.

Royal Air Force Club, Piccadilly.

Sir Aston Webb, P.R.A., & Son, Architects. (*See p.* 646.)

On Monday last, Mr. W. G. Newton (President) occupied the chair at a general meeting of the Architectural Association, held at 34–35, Bedford-square, W.C.

New Members.

Five nominations for membership were announced, and the following were elected as new members:—

Mr. F. R. Cook.	Mr. A. Stocker.
Mr. W. N. Cortis, B.A.	Miss H. F. Mason.
Mr. H. de C. Hastings.	Mr. A. P. Ramsay.

The Dance at Olympia.

The Chairman announced that the Council of the Association had carried a hearty vote of thanks to Mr. Greville Montgomery for his kindness in bearing a large portion of the expense at the dance at Olympia last week; to Mr. Champneys for his very admirable poster design, and to those who decorated the hall, including Miss Cooke, Miss Chambers, Mr. Bucknell, Mr. Champneys, and Mr. Slaughter.

Housing in Holland.

Mr. Arie Keppler (Director of Housing, Amsterdam) then addressed the meeting on "Modern Housing in Holland," which was illustrated by lantern slides—some of the subjects of which were illustrated in our last issue in connection with Mr. Ewart G. Culpin's article on "Housing in Amsterdam." After referring to the development of the town, he said under the present scheme of development a rigorous division into official quarters for labourers, middle-class and wealthy, was decided on, and a new architecture arose, free from historical styles. Several gifted young architects were now enthusiastically devoted to the development of a national architectural art, in spite of individual differences.

It was necessary that a new development should now be made for other parts of the town, and it would probably be carried out by the officials making a programme, including the requirements of traffic, housing, playgrounds, and zoning, and giving the limit of the number of houses per acre. Then the architect would come in. The official ought not to make a building plan for 50 years and longer, but to stipulate the important lines of the plan, and architects coming after him would design and prepare plans for the building sites.

The municipality had provided a large number of dwellings for its working-class inhabitants. Up to the present time 4,000 families had been housed in the municipal dwellings, 2,000 more dwellings were in course of erection, and plans were prepared for bringing the total number up to 10,000 at no very distant date. The town had assumed the duty not only of supplying houses to meet the general shortage but of providing houses for those for whom no one else was able or willing to find accommodation, and especially for large families. Women managers had been appointed to take charge of the municipal houses and their tenants, and there was now a staff of thirteen managers working under the Chief Woman Manager. Great care was taken in assigning the new dwellings. Some groups of houses were designed expressly for families with five or more children. Tenants who did not pay their rent promptly, or were destructive, or noisy, drunken or quarrelsome, were removed into one of the special areas set apart for them.

Nearly all the plans of the municipality and the utility societies were designed by architects outside officialdom, and the houses were built by contractors, by direct labour, and by building guilds. The municipality knew that 70 per cent. of all the houses in the town were of the labourer class, and that the extensions must contain nearly all labourer's houses. If new Amsterdam were to be a good town, then it was necessary that house building should have the greatest attention. The municipality came to the conclusion that not the "jerry builders" or the ungifted, but the best architects had to take part in the work of the solution of the housing question, and nowadays the best architects were at work. In former times the private builder was master over all the schemes, and had built as cheap as possible and as badly as possible. In his work he had the assistance of the Architectural Committee instituted by the municipality, which regulated, but did not make, plans. He had various panels of architects working with him, divided into groups which worked in different styles, for it was no use endeavouring to get collaboration between architects whose sympathies as regards style lay in different directions.

Discussion.

In moving a vote of thanks to the lecturer, Mr. Raymond Unwin said Dutch housing had a very great interest because of its difficulties; although the land in Amsterdam was very low, the water was very "uppish," the two together forming a very unstable foundation. Probably they would not all agree with all the illustrations of the architecture they had seen on the screen—many would feel that the permanence of a building imposed a limit not only on its meanness, but also on the originality of the architecture, and that it was just as wrong to make a building excessively mean as to make it excessively original. The remarks of the lecturer with regard to official architecture and private enterprise in building would be taken to heart by those interested in housing in this country.

Mr. Stanley Hamp seconded the vote of thanks, and said he thought the building materials used in Holland gave the architects every chance. The elevations were remarkable, but he would have liked to have seen plans in order to see what was behind them. In many cases there seemed to be a suggestion of an enormous area of wall surface which admitted no light to the rooms behind.

Mr. Ewart G. Culpin said as wonderful as the houses appeared on the screen they were even more wonderful when seen in actuality. What struck him most was not the design (although that seemed to have been done by a man who had had a nightmare), but the way in which the design was translated into bricks and mortar, and the fact that the architects had been able to imbue the builder with the spirit of the design so as to get the houses built at all. The way in which the builders had overcome the difficulties made by the architects, such as circular entrances, pillars around the houses, and steeples was very remarkable, and there was probably better modern brickwork than anywhere else in the world. Some of the work with brick on edge, brick on end, brick sideways, and brick in waves was very impressive. The internal fittings of the houses had been well looked after, and a model room with a selection of fittings had been built from which the tenants could choose what best suited their ideas.

Mr. Manning Robertson said the buildings looked somewhat expensive, and he would like to know the cost. With regard to official architecture, while he deprecated officialdom, it seemed to him better to have official architecture than to have houses built by people who were not architects at all.

Mr. Barclay D. Niven said he would have liked to have seen more of the internal fittings. He had recently seen houses in Holland in which a small sink and a dribbling water pipe were the only sanitary arrangements, although everything was kept extraordinarily clean. In some of the houses he went into there were long vertical windows extending through two or three floors, and in others long horizontal windows serving three or four rooms in a row. He believed some 200 different kinds of bricks were used in Holland, all made of expensive materials, and the roofs were mostly covered with costly pantiles, sometimes glazed in various colours; the black-glazed tiles were the most effective, and reflected every colour of the passing clouds.

The Chairman said a few words in putting the motion (which was heartily passed) to the meeting, and in response the lecturer said the houses, or flats, were not cheap. They had cost from £800 to £900, which was comparable with the cottage in this country built at the same cost. Costs were, however, now coming down, and the houses were being built for from £400 to £500.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

The report of the Council of the Royal Institute of British Architects for the year 1921-22 contains the following notes in addition to those already given in our pages:—

Membership.—The membership was as follows: Fellows, 969; Associates, 2,214; Licentiates, 1,487; Honorary Fellows, 12; Honorary Associates, 45.

Government Architects in India.—The Council has been in communication with the Secretary of State for India and has made representations on behalf of the architects in the employment of the Government of India and of the Provincial Governments with the object of securing more satisfactory conditions of pay and status.

Architects' War Relief Fund Committee.—This Committee which administers the funds granted to the Architects' Benevolent Society by the Prince of Wales' Fund specially for war cases has considered 27 cases during the year, and has made grants to those which were deserving, amounting to £1,111

Architects and Speculative Building.—The Practice Standing Committee has considered the question of the employment of architects in private enterprise housing, and at the meeting when the Committee dealt with this question it had the benefit of the attendance and views of Mr. Manning Robertson, whose special experience on the subject was of considerable value to the Committee. After careful consideration it was decided to recommend the Council to get into touch with the builders' organisations with a view to a general discussion on the subject. It is hoped that decisions will ultimately be arrived at which will increase the opportunities of the profession in a relatively new sphere of usefulness.

WORCESTERSHIRE ARCHÆOLOGICAL SOCIETY.

The annual meeting of the Worcestershire Archæological Society was held recently, when Mr. J. Humphreys (President) was in the chair.

The annual report stated that the membership of the Society now numbered 128, which was a decrease of two compared with last year. During the year 12 new members had been elected, while 14 members had either died or resigned. The members welcomed their new President (Mr. John Humphreys, F.I.A.), who had already brought honour to his country in his lifelong study of archæology and county history.

Mr. J. Humphreys was re-elected President, and the Rev. J. Willis was appointed Hon. Secretary in place of the Rev. A. E. Jerram.

Mr. W. A. Clarke, President of the Birmingham Photographic Society, subsequently gave a lecture on "Our Norman Cathedrals and Their Builders," for which a hearty vote of thanks was accorded him.

CORRESPONDENCE.

Unification and Registration.

We have received the following copy of a letter from Mr. Sydney Perks, which has been sent to Mr. H. T. Buckland. We are glad this meeting has been arranged and hope it will produce fruitful results. Mr. Perks writes: – "I have consulted Messrs. Cross, Hubbard, and Searles-Wood; and four men representing the R.I.B.A. Defence League would be most happy to meet any four men who represent the Institute on the above Committee, to hear their views on the scheme, and any reasons why we should withdraw our strong opposition to it."

Sir,—We are indeed indignant at Mr. Keen's unjustifiable suggestion that we "stole a march on our provincial members by seeking a snap-vote at a London meeting." With reference to the meeting on February 7, a notice was printed in the *Journal* of January 28 with a heading in large type "Special General Meeting"; that notice gave the resolution to be moved, a notice in red ink, also giving the resolution, was pasted on the front of that number of the *Journal*. Town and country members had the same notice, and the Secretary received about 170 letters from members who could not attend, and who all supported the resolution. The room was crowded, and the Presidents of Allied Societies from Liverpool, Birmingham, Bristol, Sheffield, and Manchester were present; there were also speakers from Doncaster and Cambridge, and other members from the provinces attended. During the evening the President referred to those "who came from outside London and who came at some inconvenience." The resolution, *exactly as submitted to every provincial member*, was voted on, with the well-known result that 112 men supported it and only 66 men voted against it. In the face of these facts how dare Mr. Keen state we "stole a march on our provincial members by seeking a snap-vote at a London meeting"? It has been apparent for some time that Mr. Keen fails to appreciate the meaning of the word "unification." Does our Hon. Sec. know what a "snap-vote" is?

With regard to another point raised by Mr. Keen, of course we gave the Parliamentary agents the exact wording of the necessary part of the resolution passed by the Unification Committee, and not Mr. Keen's subsequent explanation of it. If he was of opinion that only selected or approved architects should be admitted to our Institute, why did he not say so at the meeting on May 21? Then, again, he had a chance at the meeting of that Committee on February 7, and again he failed to do so.

Mr. Keen asks members to "read what the Unification Committee says." We have been urging this for months past, and that was why we recently sent you important extracts from the report in the *Journal*, showing, as plainly as possible, that speakers were in favour of admitting "all architects" to the Institute, and not only those men our Council, in their wisdom, might think entitled to that honour.

Mr. Keen accuses us of opposing registration. We sent out a pamphlet to every member stating "The R.I.B.A. League is not opposed to registration," and we have stated that principle on every available occasion.

Just one other instance of the questionable methods employed by some supporters of the so-called unification scheme. It is well known that the Unification Committee passed four resolutions on May 21, and that they were published for general information; they were considered by the Council, and subsequently on February 7 by the general body. The whole of the minutes of the Committee meeting on May 21 are published in the *Journal* of May 28, page 428, &c. Anyone with the most elementary knowledge of committee precedure knows that a committee can only report as a result of resolution or resolutions, afterwards recorded in the minutes. Our Council published in the *Journal* of March 25, on page 308, a statement that the Unification Committee "issued an interim report . . . for the consideration of the Councils of the R.I.B.A. and of the Society of Architects. This report, which had the almost unanimous support of the whole committee, was, in effect, a recommendation that unification of the profession should be effected by the inclusion of qualified architects in the R.I.B.A.," &c. A reference to the minutes of the Unification and Registration Committee will show that they made no interim report to our Council, or to the Society of Architects, or to any other body.

We leave your readers to form their own opinion, but, having regard to the facts recorded above, who can wonder at the great and growing indignation of many members of the Royal Institute of British Architects?

A. W. S. Cross,
H. D. Searles-Wood,
Vice-Presidents, R.I.B.A.
George Hubbard,
Sydney Perks,
Secretaries, R.I.B.A. Defence League.

Sir,—Mr. Maurice E. Webb, F.R.I.B.A., in an excellent paper read before the Liverpool Architectural Society, is reported to have said, in your issue of March 31, on page 476, in support of unification and registration, that: "Recently the Surveyors' Institution had absorbed the Quantity Surveyors' Association, . . . Why had they done that at some sacrifice to those who had passed the Surveyors' Institution Examinations? Presumably because they felt that the need for unity of effort was worth some sacrifice apart altogether from registration by Act of Parliament." The facts of the case would hardly bear this construction. And if those who favour unification and registration rely upon such an example, it would seem they are clutching at straws to prevent drowning. What are the facts? They are briefly these: The formation of the Quantity Surveyors' Association was a break away, some years ago, from the Surveyors' Institution, by its then most active members, who honestly believed by so doing they would further the interests of those practising in quantity surveying, who they thought at the time were not receiving the attention they rightly deserved by the Institution. These same members, amongst others, having come to the conclusion that the Quantity Surveyors' Association had served its purpose, and run its course, have returned to the fold from which they emerged. But, on returning, they made conditions, hoping, by so doing, to avoid a repetition of the past. Whether the experiment will prove successful remains to be seen. The Surveyors' Institution has got an increase in members in a particular section, who reinforced by the members of the Institution in that section have been instrumental in obtaining for themselves a special committee to watch and control affairs in the interest of quantity surveyors. Some believe, in the sense that Mr. Webb has put it, that the Quantity Surveyors' Association has been absorbed, yet others claim that it is no other than an amalgamation, and the two bodies have been strengthened as a result.

Apart from all that, there were other and more pressing reasons for amalgamation. The Quantity Surveyors' Association, although

A CORNER OF THE LOUNGE HALL.

Royal Air Force Club, Piccadilly.

Sir Aston Webb, P.R.A., & Son, Architects. (*See p.* 646.)

it had embarked upon schemes like the formulation of a standard system of quantity surveying, had exhausted all its ideas that were of any benefit to practising quantity surveyors; it had no power or influence beyond a limited range that just about circled London; it lacked courage to put into force or operation just those things that really mattered—for instance, it went so far and was successful in getting quantity surveyors recognised by the Ministry of Health in connection with housing and agreeing upon terms, but immediately it had accomplished this, the architectural societies robbed it of the fruits of its labour without their putting forward the slightest protest—it dared not say: "You are poaching upon our preserves," because its members were dependent to a large extent upon the patronage of architects; it sought to evade its obligations—those that were of vital interest to its members, for the simple reason that the council had not the courage to carry them out; and it failed entirely in its object to make quantity surveying the sole concern of qualified practising quantity surveyors.

Now, it is thought by many, in its amalgamation with the Surveyors' Institution and by co-operating with the quantity surveying members of that Institution acting through the specially formed committee, it will accomplish all these things, that the very weight and power and prestige of such an Institution is in itself sufficient to command respect and consideration for any proposals or claims it should put forth. But, for these unquestionable rights or advantages, the Institution may, for this support, demand from this section of its members certain duties or obligations. I think we shall be right in taking it for granted, in the event of the architectural societies seeking to make the practice of architecture a close profession, that those members of the Surveyors' Institution who are estate agents, or valuers, or building surveyors, or land surveyors, who comprise the major portion of the members of the said Institution, will, for the aid rendered to the quantity surveying section, demand their support to prevent architects practising in any one of these branches of the profession. Again, will not the Institute of Builders have something to say on the subject? Before they consent to their members giving up the practice of preparing plans for buildings, will they not demand that the architectural societies shall agree that only qualified practising quantity surveyors shall prepare bills of quantities, as in virtue they are pledged to do to the Surveyors' Institution in collaborating with them in the formulation of a standard system of quantity surveying?

Mr. Webb speaks of quack architects. What is a quack architect, to begin with? Is it not necessary first of all to define what architecture is, and to say that an architect is one who encompasses such in the practice of his profession? Will someone oblige by a definition of architecture? Or will the architectural societies do so?—then we shall know where we stand. If the architectural societies are desirous of erecting a fence around architecture, then let them do so by all means, but let us know what that fence is to be, then those who feel so inclined may jump it or knock it down as it suits their whim or fancy. Some new light is wanted on the subject. Mr. Webb says: "The quack who styles himself 'undertaker and architect' (a pretty figure of speech that) or 'estate agent, valuer, and architect,' would be unmasked, because he would have the simple choice either to drop the word architect, or on entering the R.I.B.A. to drop the remainder of his business (note the courteous and polite term) title and also the work he did under it." Now, if Mr. Webb would be good enough to reverse the order, leaving out the ridiculous word "undertaker" as being inapplicable in this case, would not architect, valuer, estate agent, engineer, land surveyor and quantity surveyor, about fit the title of the average practitioner in architecture? Does this not cover the work they usually do? Further, have they not the full support and sanction of the architectural societies?

The architectural societies are perturbed, and not without reason. They have suddenly become aware that their paramount interest and salvation lies in their protection by registration of architects enforceable by an Act of Parliament; they have become conscious that the pupilage system is dead and done with, and are alive to the fact that their days are numbered for controlling and governing by examination entrants to the profession, guiding and deciding their destiny, and keeping them within their fold for all time, unless something drastic is done in the near future; they know full well that within a few short years there will be a host of men, recognised and honoured, with diplomas in architecture bearing the hall-mark of sound training and possessing capabilities and talent and merit, in which the architectural societies shall have had no say and can lay no claim in the making, and holding no sway over them, and whom they will be afraid to dub "quacks."

It is to be hoped that the architectural societies, in their dilemma, will not commit the fatal blunder of their compeers, the Civil Engineers, who must, even now, have recognised that in their attempt to foist an Act of Parliament upon the public, restricting anyone using the title of "Engineer" unless he be a member of that Institution, they were just about 100 years too late. And registration—whither will it lead us, in a reshuffling and a reorganisation of our positions, and demanding a definite declaration from each and all of us as to the particular branch of the professions in which we shall practise?

From what one can make out, it would seem to be clear that the different societies interested in the various phases of the professions are manœuvering for positions—the most favourable to themselves that will give the greatest benefit to their own members, with an almost cynical and utter disregard and consideration for the welfare of members of other societies, and none whatever for the community of which they are but an infinitesimal part.

T. Sumner Smith.

Manchester.

"Restoration of Cathedrals."

Sir,—In your Note of the 14th, reference was made to the restoration of the North Transept of Westminster Abbey. If your correspondent had suggested taking down Wren's work on the two Western Towers, and rebuilding them in Gothic, there would be very little difficulty in getting the money. With the exception of Southwell Cathedral, I have visited them all, and know of no case where any harm has been done in restoration. The only modern work that may be altered now is the tracery in Lord Grimthorp's North Transept window at St. Alban's Cathedral I can never understand why the headless figures have been left in the beautiful niches in the Lady Chapel of Ely Cathedral. The mutilation of these figures is the handiwork of Cromwell's crew. Beautiful as the remains are, if I had my way I would have them all replaced by new figures.

Edward Vale.

"Improved Standard of Tenements."

Sir,—In your issue for April 21 you referred, in your Note under the above heading, to the plans of Geoffrey House, in which the London County Council have used the two top stories in a four-story building to provide bedrooms only on the top floor, with the living rooms immediately below, and so reducing the height of staircase to be mounted to a very large extent indeed.

In 1920, in conjunction with Mr. H. Dighton Pearson, I submitted a scheme for tenements to the St. Pancras Borough Council, in which the arrangement adopted by the L.C.C. was used.

An elevation of the proposed building, with a ground floor plan attached, was exhibited at the Royal Academy in 1920, but the St. Pancras Borough Council did not proceed with the work. The arrangement is very convenient, as it practically makes a four-story building equal to a three-story one.

Horace Field.

THE LADIES' ENTRANCE.

Royal Air Force Club, Piccadilly.

Sir Aston Webb, P.R.A., & Son, Architects.

(*See p.* 646.)

COMPETITION NEWS.

Auckland War Memorial Competition.

Designs for a war memorial building, for the Auckland (N.Z.) War Memorial Committee and the Auckland Institute and Museum. Sending-in date, June 30 from London. (See our issue for September 2, *et seq.*)

Newport (Mon).

For the War Memorial Committee.—Designs for a cenotaph. Sending-in day, May 1. (See our issue for March 31.)

The promoters of this competition having satisfactorily revised the conditions, members of the Society of Architects are at liberty to take part if they desire to do so.

Dundee.

For the Dundee War Memorial Committee.—Designs for a war memorial. Sending-in date, May 1. (See our issue for January 6.)

Ipswich.

For the War Memorial Committee.—Designs for a war memorial. Sending-in day, June 17. (See our issue for March 31.)

A copy of the conditions of competition may be seen at the office of *The Builder*.

Poster Competition.

The Poster Competition organised by the Royal Institute of British Architects is referred to on page 639. (Sending-in day, July 15.)

Other Competitions.

Other competitions still open include the following (the dates given are, first the sending-in date, and second the issue of *The Builder* in which full particulars were given):—Trujillo (Peru) monument (June; Jan. 13); Colour Competition (May 1; Feb. 17).

EDUCATION OF THE ARCHITECT IN THE UNITED STATES.*

Mr. Robert Atkinson is well equipped to write on the subject of architectural education, for his dual position as a practising architect and as Director of the Architectural Association School keeps him in touch with the ideals of the profession and with the means of turning them into realities. His notes on American educational methods have behind them, therefore, the authority of experience, and must be regarded as the expression of opinions founded on thorough knowledge of the possibilities and of the technical difficulties involved in imparting to students the elements of the "Mistress Art."

Architecture in the States enjoys a very large measure of public recognition, and its recent development has been extremely rapid, thanks to a system of education which grafts upon the class work of existing technical schools some elements derived from the Beaux-Arts School of Paris. In the course of his study of American colleges, Mr. Atkinson found occasion to observe that the connection between the native and foreign elements was not so thorough as might be hoped, and that in some cases the architectural school was subordinate to the technical school and suffered from having as its head an engineer whose sympathies inclined him to develop the purely scientific rather than the artistic side of design. Notwithstanding this lack of co-ordination, the practical results are very creditable to American taste and skill, though a certain hardness and lack of imaginative grasp of the inter-relation of construction and design necessarily follows from this method of tuition. "The most striking result," says Mr. Atkinson, "is the rigidity of the type of architecture produced by practising architects. Many types of buildings have reached an accepted 'expression,' but that expression suggests too much a standard to which the designer has been careful to adhere rather than the standard of his own ability. It is too often bookish in character and of second-hand value. This is specially noticeable in a lack of originality in details, which invariably show the effect of some standard book and differ in quality only with the taste of selection. In many of these buildings there is too often displayed a lack of that progressive thought which alone makes for original design when face to face with the practical problem. This is directly traceable to those schools where taste is educated as selective rather than creative, and where construction is largely developed independently of design."

Several other causes, besides the nature of the school organisation, doubtless conspire to perpetuate this selective type of art. The habit of Continental travel, which introduces so many Americans to the appearance of classic buildings in their proper form, must tend to beget a desire for the accurate repetition of their detail rather than an inclination to be contented with designs loosely based upon the past and of questionable accuracy because adapted to the problem in hand. With skeleton steel framework adopted as a standard method of construction the outward form of a building is subject to the greatest possible variety of treatment; and, choice being practically unrestricted, the practising architect welcomes the constraint imposed upon him by the repetition of the antique tradition, if only to escape from the chaos of his own thoughts. It is not an easy matter to co-ordinate a steel framework with the appropriate expression of a building, and since the curtain walls inevitably partake of the nature of scene-painting it may be as well to have that scene-painting academically or classically correct in its detail and let it confess itself an interesting copy, for it will never have the appearance of solid masonry in such a degree as will satisfy eyes familiar with the original buildings in Rome or Greece or Egypt. The worship of the "standard book" is natural under these circumstances, and is the alternative to individualistic striving, invention, or at the worst "new art," for time does not often permit a busy man to perfect as well as invent new and appropriate forms of detail to clothe a new material such as steel. When it is a question not merely of designing new forms but of teaching their design the difficulties of attaining good results are enormously increased by the lack of examples to put before the student. It is exceptional for a youth commencing his training to be mentally in a position to appreciate a discussion of abstract principles, such as the connection between construction and artistic expression, and it is more than doubtful whether this connection could be summed up in any brief form of words which might be accepted as a statement of principle. The Greek architectural art which has received the admiration of the world is not merely sound construction, not merely a logical arrangement of posts and beams as in the primitive hut, but an æsthetic expanding and glorification of such forms with increased bulk and changed material and technique.

To some degree logical construction was eliminated in the pursuit of increased magnificence. Perishable pigment was used instead of permanent-coloured terra-cotta and expensive tiles laboriously carved out of marble were substituted for tiles rationally and economically cast in clay. Thus, even at the admitted fountain-head of architectural art, expression and construction tended to diverge as separate streams, and although there are certain minds to which simple and direct construction makes a very forcible appeal, a statement that the primitive, logically-constructed hut was more "architectural" than its glorious but somewhat illogical descendant could hardly expect to meet with general approval. Just how far economy and constructional good sense may be sacrificed to majesty or grace can only be answered by men of genius in their finished works, and it must be the function of those who introduce the young to the study of architecture to point out clearly which features in an example under examination depart from primitive simplicity and directness.

But in order that the students may profit from such a course of instruction it is necessary for them to know a great many hard facts about ancient art and construction, which can only be acquired by reference to the books, or, better still, if time permits, by examination of the monuments themselves. Practically all the great schools in America are agreed about the necessity for this preliminary study. The Classic orders and their management must be learned not because it is advisable in practice to deface the fair surface of every wall with unnecessary pilasters but because it is necessary to provide a foundation of accurate knowledge of some commonly-understood architectural *motif*. In questions of taste not only is "one man's meat another man's poison" but the same man learns to enjoy different dishes in the course of years. It may be just as well to surfeit from "orders" in the training school, where their employment only costs pencil and paper, and learn afterwards to appreciate the plainer fare that will fall to the lot of the practising architect.

Some attempt is being made in Cornell University to give to architectural design a direct foundation in construction. Mr. Atkinson says: "Professor Bosworth believes in beginning design at once by giving subjects as an *esquisse* which require rather observation of everyday objects (such as a door or a bridge) than any knowledge of architectural details, and the results are certainly very good. The method resembles that of the kindergarten schools, where an object is shown to the pupil for five minutes and then he is asked to draw it from memory. It appears to be a practical method for stimulating observation and could be developed in many directions."

The same modern spirit is observable in the University of Michigan, Ann Arbor, where, Mr. Atkinson remarks, "Professor Lorch is very keen on modern design and begins his students very early upon pure abstract design as an exercise in ingenuity and observation." Pattern and diaper repeats, colour harmony, and colour schemes are dealt with, and working drawings of construction are produced on office lines, and "students are encouraged to tackle new problems in a modern way (perhaps too soon)," says Mr. Atkinson. It would be disastrous for a young man to venture on an independent and individualistic view of architecture before examining the possibilities of collective harmony, which can only be obtained throughout large schemes by intelligent co-operators working on an accepted method. The science of city planning and landscape architecture, in which America has made a great advance, presupposes a readiness in individual architects to work together in harmony, and students are sometimes encouraged to collaborate in the preparation of designs and models. Of Columbia University School of Architecture, Mr. Atkinson writes: "A most important phase of the teaching of design is the method of realising the full value of drawings by the making of models. Such models are assigned to students on a co-operative or group plan, and a certain set of drawings for each problem issued, selected for their particular merit, are executed in model form. This is the most direct method of emphasising the importance of observation for the architect, teaching scale, and the consideration of all dimensions in relation to a problem usually developed only on paper."

It is this collective aspect of teaching, perhaps, which justifies the great stress laid upon the rendering of drawings throughout all the centres of architectural training. From some points of view, and in the interests of spontaneity, it would be an advantage if architecture could return to the method of "designing as you build" practised in the East at the present day, where modelling and a process of cutting and fitting by trial and error take the place of the accurate working drawings which are made a necessity to us by the interposition of the contractor between the architect and his work. But, granted that it is necessary to make drawings, there is a great deal to be said in favour of their being made according to a standard pattern. When every student is encouraged to furnish his preliminary sketches in the same manner and medium it is possible for the instructor to criticise their architectural value before the class without the issue being confused by the rival interests of novel or varied methods of presentation. A convention which embodies the geometrical projection of shadows has the advantage of forcing students to think of the effect of their designs as solid bodies rather than as conglomerate assemblies of minor details. The defect of shaded drawing is that time does not permit the critic to verify the projection of all the shadows, and incorrect or unconscientious work may carry the day if only the washes of pigment have been placed prettily on the paper. This puts that student at a premium who is *au fait* with all the short cuts, but then he deserves some credit for achieving colour harmony even on paper, a step, it may be hoped, towards the achievement of it in any building he may put up in later life.

The report includes a résumé of the curricula of the leading schools, accompanied in each case by personal comments with a great deal of detailed information as to the buildings, equipment, and conditions of study, and in some cases of the times and expenses of a course. The equipment in the matter of text-books, photographs, and lantern slides is generally excellent, and in some cases whole libraries have been made over to the university for the use of students. This lavish provision is not always enjoyed to the full, for another aspect has to be considered in the temperament of those in charge of the school. Thus, of one educational establishment Mr. Atkinson writes, "despite the finest possible buildings and a rich endowment this school has more the atmosphere of an institution than a school of arts, due very largely to the dogmatic insistence on regulation and the general character of the principal of the school which pervades the whole."

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*"Report on the Education of the Architect in the United States of America." By Robert Atkinson, F.R.I.B.A. (Director of Education, Architectural Association School of Architecture). (London: The Royal Institute of British Architects.) Price 3s. 6d. net.

THE THEATRE ROYAL, DRURY-LANE.

THE DECORATIONS.

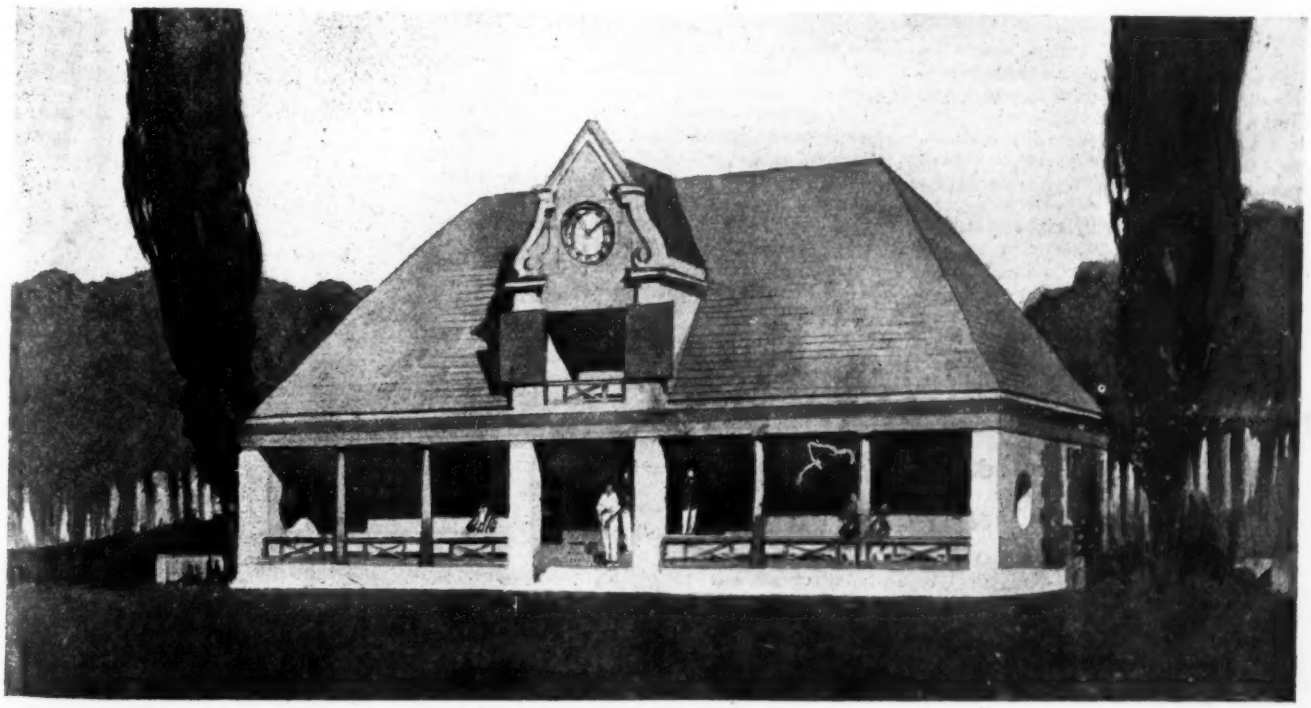
This theatre, with its long history extending from the time of Charles II, when a patent was granted to Thomas Killigrew (in 1663), has been rebuilt four or five times—in the first instance by Sir Christopher Wren. It has again had its interior entirely remodelled and decorated at a cost of over £150,000, and much pains has been spent on it. Our business, however, is not to quote from the descriptions contained in the booklet issued for the occasion, "Then and Now," but to amplify what is said in it with some critical considerations of the decorative scheme. It is the function of criticism to be constructive, not grudging, saluting any result which presents itself as aiming toward better standards and in full understanding of the conditions and the difficulties lying in the work. In this spirit we greet the effort as a step in the right direction. A great deal of pains has been taken, and where it fails is not in intention but appreciation of certain requirements fundamental to the best results.

If appreciation has to be qualified, if reservations must be made, they are offered with no other aim than to open the way to further advancement. So we greet the progress in appreciation which the decoration discloses, but we need to go farther: for this scheme, with all its merits, is still lacking in imagination, and the touch of a dominating mind, the quick intuitive perception which would have co-ordinated all the parts and given unity to the whole. For lack of this, interest is sometimes scattered, arrested, or broken up, and thus, instead of the crash of the final symphony, when all the parts of the decoration unite as a whole, they remain scattered and unrelated. We stand in the Rotunda which promises well, the old-gold and lapis-lazuli colour of the columns, the graceful gilded rails round the gallery give us pleasure, and as the eye ascends, carrying with it the impression of splendour, which these convey, it is suddenly depressed by the cold and neutral colour of the vault, which, instead of glowing down on us, forming a fitting canopy to the rank and beauty moving under it, remains lifeless and cold Our object is to reach the lesson contained in this defect in decoration, which is due to a lack of the sense of constructional beauty. In architecture the parts have to be assembled so as to support one another, but the Rotunda has not been treated as a whole, but in bits! And this is the case elsewhere. It was not the cost which led to this neglect of the most important part, but the lack of the sense of constructional beauty, the inter-relation of parts. With a strong sense of the need of unity, adding oxygen to the flame of beauty, the notion of leaving this fine dome a neutral grey in its panels, indifferent to the wealth of lapis-lazuli and gold beneath it, would have seemed impossible. We are concerned here with the need of "the little more and how much it is," and to ask for the presence of vision in addition to other practical endowments.

Unity in treatment and style is achieved when direct freedom of expression dominates those derivative influences through which we give pale imitation only to the life of the past instead of capturing the beauty of our own: and when imagination aids knowledge. In the Auditorium are paintings in the Fragonard manner, which are not Fragonards; here are "Wedgwood" panels which are not Wedgwood; tapestries which are not tapestries, and appear of a pale disembodied character, quite nice, but nerveless—whereas the spirit of our own time could have been embodied. Why have tapestries which are not tapestries, when real mural painting is procurable? Is it not because those who direct these things, in many ways so admirably, take on a task too large for them if shouldered without creative vision to aid them? For the laws of construction in colour decoration are just as exact and organic in their requirements as the construction of the architecture, not resting only on taste, or knowledge, or opinion, but on a vision which is the application of laws applied intuitively by the artist; laws as exact as those which govern the science of construction itself.

Space precludes our entering into the interesting considerations which arise out of the treatment of the auditorium, except to mention the successful effect of the deep blue behind the gilded fronts of the top tier of boxes; how much better if, having reached a treatment so arresting and successful, it had been carried farther and made the basis for the treatment of the boxes below! There seems no artistic justification for the Wedgwood treatment of one and the "swag" treatment of another. Had this blue and gold treatment been carried down through the boxes on each side, joining with the deep blue of the proscenium frame, by simpler means, a more impressive and beautiful result would have been obtained. We dwell on this, not in dispraise of what is done, but as representing the lack of that "little more," which mutual prejudice withstands—a distrust by the artist of the business firm, distrust by the business firm of the artist—when really their work is mutual and dependent on each other. What, then, is the clue? We find it in an approach more spontaneous, less reminiscent not the shadow of the past, but the reality of the present. Instead of the psuedo-stylistic "Period" affectations, which, as in the case of this scheme, are not really Louis—how can they be?—or ourselves, because unassisted by constructive imagination, the required vision of the artist. In this way only can we carry on the tradition of the past, because rekindled in the life of the present. When this next step comes and decoration includes this further need, it will throw an added happiness over our labours and greater achievement over our work.

In the play itself, "Decameron Nights," there is much that will attract the lover of spectacle; and great pains have been bestowed on the scenery and dresses. The scene on the "Piazza at Venice," like so much else in the play, aims at a realism that is not the accompaniment of the best art, and we should prefer the play to have created its own world in a story which is so essentially artificial and conventional as the Decameron. The management is to be congratulated on the successful lighting, which is a new departure. Whereas the light used to be thrown on to the stage from the auditorium, the very much better plan has been adopted of arranging the light—reflected light—from the stage itself. It is all done from behind the proscenium. The "spot" light for picking out actors is done away with, and the footlights and battens are superseded by a system of light reflected from above and behind and which, flung through a veil on to a black-and-white background, produces more natural effects of colour. This is a great gain artistically, and an improvement we shall hope to see extended to other theatres. The limelight from the front fired at the actor was always a very coarse and ugly method and gave him a very inartistic sort of prominence.



Leys School, Cambridge: Proposed Games Pavilion. Design Placed First, by Mr. A. G. R. Mackenzie, F.R.I.B.A. (*See* p. 647.)

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ILLUSTRATIONS.

The Royal Air Force Club.

The members of the Royal Air Force Club are fortunate in now possessing some exceedingly well-appointed and pleasing club premises in Piccadilly. The remodelling and alterations which have been carried out by the architects, Sir Aston Webb, P.R.A,, & Son, have resulted in one of the best suites of club rooms in London, not only comfortable and convenient, but possessing an air of refinement and dignity which many of the older clubs cannot boast of. The treatment of the main corridors on the ground and upper floors with vaulted bays and nicely accentuated pilasters is very happy, and the lounge hall opening into a fine ample staircase is very good in its general effect. Another staircase at the back of the site forms a good feature at the end of the main corridors. The dining room on the first floor, overlooking the park, is an especially pleasant apartment and the tall fireplaces at either end have a noticeable effect of refinement and delicacy, electric clocks being happily introduced in the delicate metal framework of the large mirrors over the mantel-shelves. Our illustrations do not do full justice to the work, though they afford a fairly adequate idea of the whole scheme, which shows how well a building may be adapted to a purpose for which it was not originally designed. One especially effective view looking upwards to the vaulting above the front main staircase we have been unable to get. The generous donor, Viscount Cowdray, to whom these admirable premises entirely owe their existence, may well be satisfied with the result.

For a full description of the premises see our issue for January 6.

Messrs. Liberty & Co.'s New Premises in Argyll-place, London.

We illustrate from a water-colour drawing, exhibited at the Royal Academy, a novel departure in modern street architecture which is of considerable interest. The name of Liberty is a household word associated with art fabrics and furniture. The Company decided to build their new premises in the Tudor style because the Tudor period is essentially English and a Tudor shop brings to the mind a picture of those bygone days when the ancient guilds of the craftsmen and the merchant adventurers displayed, in the beautiful buildings of Old London, the productions of their handicrafts and the treasures for which they had sailed so far and endured so much.

There is a glamour about the lavish and riotous days of Queen Elizabeth and Henry VIII, and a house of that period is a fitting setting for the richly-coloured and hand-printed silks from Merton Abbey and the East, for the brocades from Italy, France, Japan and Shantung, for the silken and woollen carpets from Ispahan, Bokhara and Shiraz, for the jade and porcelain and embroidered shawls from China, and all those other beautiful examples of the craftsmen's work with which Liberty & Co. concern themselves. These goods will be shown in rooms of a height and kind that people are in the habit of living in, and will be seen in their proper proportion and judged on their true merits.

Rosetti, Burne-Jones, Watts, Leighton, Albert Moore, Whistler, and Alma Tadema were early customers and friends in the little shop in Regent-street opened by the founder of the business, the late Sir Arthur Liberty, in the latter part of the nineteenth century, which business has grown to so large a volume as to demand more and more extensive premises. It may well be that the large number of visitors who come to London from all over the globe—from places where there is abundance of Renaissance or other architecture—will be interested to see a London street of Tudor architecture carrying on the tradition of "half-timbered" work. The last large building still extant in London erected in this style is Staple Inn in Holborn, which was built over 320 years ago.

The site of the new building is an island, surrounded by roads, and the principal front occupies the whole of the south side of Argyll-place, the roadway of which is to be doubled in width.

The architects have given sympathetic effect to their clients' ideas and by careful grouping and by variety of parts have epitomised the style in rhythmic and pleasing manner. They have also shown how the whole group can be built up to date in the matter of fire-resisting construction, fire protection and escape, ventilation, sanitation, lighting, heating, and comfort for the working staff.

The external timber framing is to be of teak, that of the interior of oak, in large balks, and, what will be a further matter of interest, all this timber will come from two old "three-decker" men-of-war, now being taken to pieces, one of which is about the same length and height as the Argyll-place elevation. Some of the timbers in the ships are 17 in. square, but the bulk to be used will be 15 in. and 12 in. square balks with adzed faces. The oak floors throughout are from the ships' decks. The external timber, all mortised, tenoned and pegged, is filled in and backed with brickwork, and, in many places, there are double or cavity walls. The roofs next the streets are covered with tiles and the pent roof at the main entrance with stone. It should be added, in these days when so much has been said about the necessity for higher buildings, that instead of the 80 ft. height of external walls permitted by the London Building Act, the height of this building is 46 ft.

As a matter of town planning, the main entrance is opposite Argyll-street, and the triple gables carried on stone towers will be visible from Oxford-street. As will be seen by the plan, this entrance at the outer edge of the pent roof is 30 ft. wide. It opens into a large vestibule enclosed by a glazed oak screen, and from this access is given to eight five-story galleries (divided by party walls), those on the north and south lighted from roads, those in the centre lighted from the sky. In addition there is an extensive basement. The north galleries on the fourth floor, about 260 ft. long, will have oak open-timbered roofs. There are seven staircases, five of which extend from basement to the central flat roofs and give egress direct to the street. There are four lifts. The area of floor space is about three acres. The north and east central galleries in the basement, the whole of the ground, first and second floors, the north and part of one central gallery on the fourth floor, will be showrooms, and there are about a dozen trying-on rooms. The remainder of the building consists of offices, workrooms, four dining halls, two kitchens, rest room, cloak room, groups of lavatories, &c.

The lighting will be by electricity. The ventilation, generally, will be by fresh air inlets and outlets, but the basement will have a special treatment. Fresh air is brought from above the roof to an ozonising plant, whence ducts will be carried to all parts, and the vitiated air will be withdrawn by suction fans. The heating will be by hot water from calorifiers fed by steam boilers, which will also heat Messrs. Liberty's adjacent Regent-street and Little Marlborough-street premises.

Building operations are to commence in June. It is hoped that the Regent-street block will be rebuilt as soon as the Argyll-place group can be made ready for use.

The architects are Messrs. Edwin T. Hall, F.R.I.B.A., and E. Stanley Hall, M.A., F.R.I.B.A., of 54, Bedford-square, London, W.C.1.

London County Council Tabard Garden Estate.

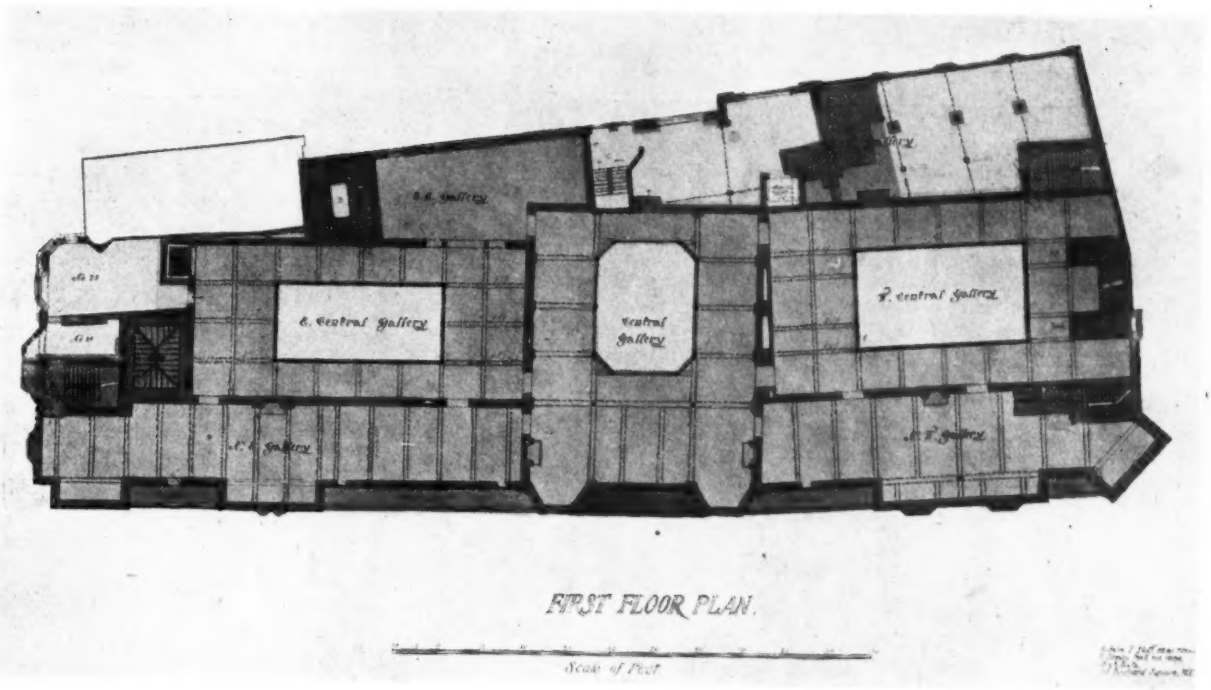
Last week we illustrated the plans of Geoffrey House, and we now reproduce the sections, elevations, and a photograph, together with site plans showing the area before and after re-modelling. We also append a fuller account of the scheme.

The Tabard Garden Estate of the London County Council, situated in the borough of Southwark, is a housing estate, about 16½ acres in extent, the outcome of the clearance of unhealthy areas. The reconstruction by the London County Council is being effected in accordance with the terms of an improvement scheme under Part I of the Housing of the Working Classes Act, 1890, and known as the "London (Tabard-street, Grotto-place, and Crosby-row) Improvement Scheme." It includes the Tabard-street area, containing 649 houses, occupied by 3,552 persons; the Grotto-place area, about 1.6 acres in extent, containing 138 houses (86 houses to the acre), occupied by 567 persons; and the Crosby-row area, about 1.1 acres in extent, containing 88 houses (80 houses to the acre), occupied by 474 persons.

The improvement scheme was confirmed by the Local Government Board on March 13, 1912, and the confirming order required (i) the provision on the Tabard-street area of accommodation in new dwellings for not fewer than 2,580 persons of the working classes, part of such accommodation to be built on a detached portion of the area in Law-street; (ii) provision for the storage of costers' barrows to such extent as might, in the opinion of the Board, be required for street traders; (iii) the provision of an open space of not less than 5 acres for recreation purposes; (iv) the construction of two new roads and the widening of certain existing roads. The Grotto-place and Crosby-row areas are available as surplus lands for disposal, when cleared, at the discretion of the Council.

Under the terms of the scheme the clearance of the Tabard-street area is being carried out in sections, the dwellings on any one section having to be completed ready for occupation before persons on a further section are displaced. Owing to conditions arising from the war the confirming order has been modified from time to time by the Ministry of Health by means of supplemental orders varying the limits of the different sections.

The new blocks of dwellings are ranged around the open space, over which the habitable rooms have their outlook. The buildings are of five stories, and contain ground, first, second, third, and fourth floors. They are divided into lettings of various sizes, the smallest having two habitable rooms and the largest five; and for re-housing purposes each habitable room—*i.e.*, living-room or bedroom—is regarded as providing accommodation for two persons. The type of five-story dwelling adopted is that in which access to the flats on the upper floors is by means of external balconies approached by one or more common staircases entered from the street level, each flat having separate entrances from without. The planning is so arranged as to avoid the habitable rooms having their windows overlooked from the balconies or overshadowed by them, the balcony side of the building being occupied only by entrances and domestic offices.



Tudor House, Argyll Place. MESSRS. EDWIN T. HALL, F.R.I.B.A., & E. STANLEY HALL, M.A., F.R.I.B.A., Architects.

In Chaucer House the five floors are divided into one-story flats, but in the other blocks the arrangement is as follows: On the ground, first, and second floors are one-story flats, but at the third floor there is a change in the planning, whereby the third and fourth floors are combined in a series of two-story flats, the third floor being devoted to living-rooms and domestic offices, and the fourth floor to bedrooms, the two floors in each flat being connected by an internal staircase. Thus the buildings consist of three floors of one-story flats with two-story flats superimposed. This arrangement mitigates an objection to multi-story buildings in regard to the number of stairs which have to be climbed in order to reach the upper lettings; and it will be seen that by this arrangement, although the buildings have a housing capacity of five stories, the number of flights of stairs from the street to the top lettings is no greater than the number of flights in four-story buildings.

No living-room is less than 160 ft. in area and no bedroom less than 100 ft., the principal bedroom in each letting being not less than 120 ft., and all the rooms are 8 ft. 6 in. high.

In all except the two earlier buildings there is a dust-shoot for the disposal of house refuse, the hopper openings to it being outside the lettings and about 3 ft. above the balconies, while at the foot, at yard level, there is a refuse chamber. Iron clothes-posts, for use by the tenants for laundry purposes, are provided in the paved common yard.

The buildings generally are of red brick with tile roofs, the tiles in most cases being obtained from the buildings demolished on the area.

Chaucer House, the first block to be built, was completed in 1917. The second, Becket House, was completed in March, 1921, and the third block, Geoffrey House, in March, 1922. An electric passenger lift on the automatic push-button principle is being installed as an experiment in Geoffrey House; it will also be seen that in this block, the only one facing north, bay windows are inserted to catch the east and west sun.

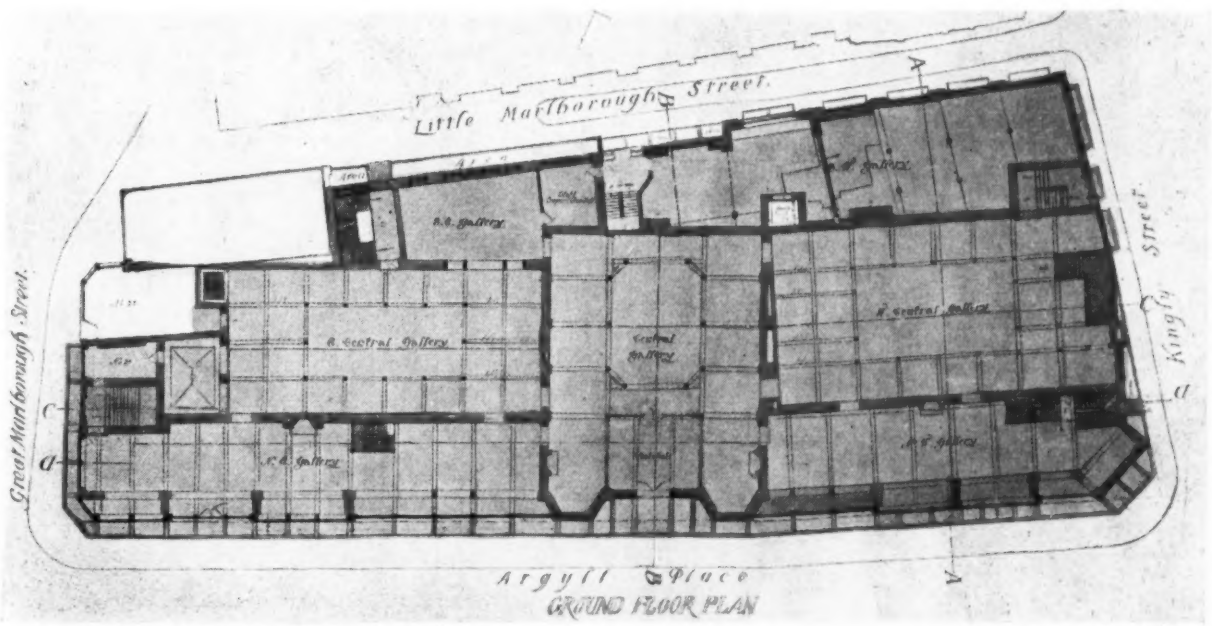
The fourth block, Harbledown House, is now being built, and should be completed by the end of this year, and a fifth block, Rochester House, is shortly to be begun. The remaining two blocks on the main area and the buildings on the detached portion in Law-street will be placed in contract as circumstances permit.

A residence for a superintendent, together with stores and mechanics' workshops for the execution of minor repairs, are being provided, thus making the reconstructed area a self-contained estate administered from the Council's central offices.

The architect is Mr. G. Topham Forrest, Architect to the Council, under whose superintendence the work is being carried out.

The Leys School, Cambridge.

The design placed first for the proposed games pavilion at the Leys School, Cambridge, which we illustrate this week, is by Mr. A. G. R. Mackenzie, F.R.I.B.A.



Tudor House, Argyll Place. MESSRS. EDWIN T. HALL, F.R.I.B.A., & E. STANLEY HALL, M.A., F.R.I.B.A., Architects.

The All-Indian Victoria Memorial. SIR WILLIAM EMERSON, F.R.I.B.A., Architect; MR. VINCENT J. ESCH, Associated Architect.
[Further illustrations of this memorial, which was opened by H.R.H. the Prince of Wales in December last, were given in our issue for December 2, 1921.]

Geoffrey House: London County Council Tabard Garden Estate.

Mr. G. Topham Forrest, F.R.I.B.A., Architect to the Council.

MEETINGS.

Saturday, *April* 29.

Royal Institute of British Architects.—Visit to Somerset House.

Monday, *May* 1 *to* 31.

Architectural Association. — Exhibition of photographs by Mr. F. R. Yerbury. At 34-35, Bedford-square, W.C.1. 10 a.m. to 10 p.m.

Royal Institute of British Architects.—Annual general meeting. At 9, Conduit-street, W.1. 8 p.m.

Tuesday, *May* 2 *to* 17.

Royal Institute of British Architects.—Exhibition of Seventeenth-Century Architectural Drawings. 9, Conduit-street, W.1.

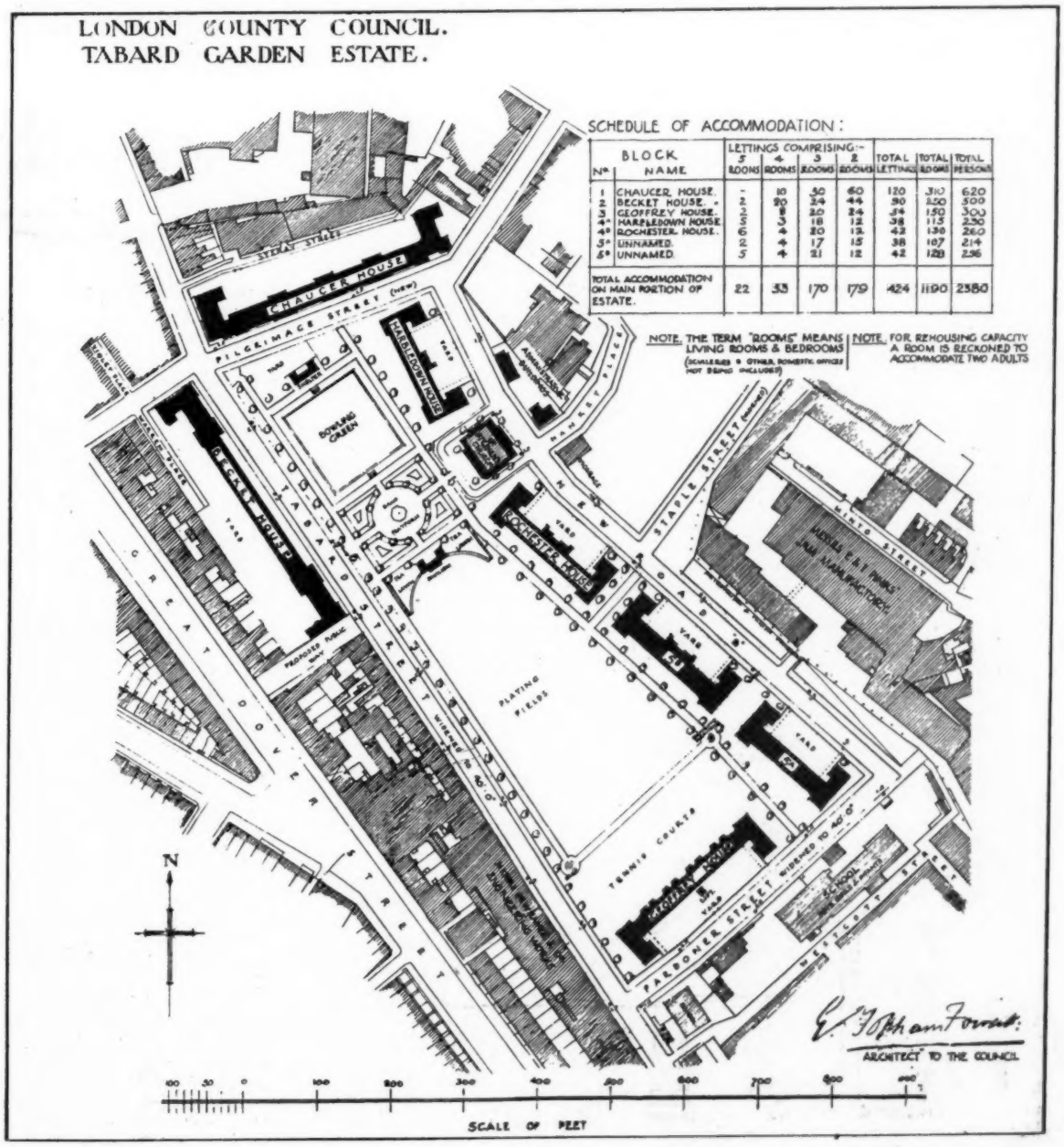
Wednesday, *May* 3.

Royal Archæological Institute.—Mr. A. H. Thompson on "Church and College of Cotterstock, Northants." At Burlington House, W.4. 4.30 p.m.

Royal Society of Arts.—Mr. N. Heaton on "A Paint Material." At 18, John-street, W.C.2. 8 p.m.

Thursday, *May* 4.

Chadwick Public Lectures.—Sir Lawrence Weaver on "Rural Re-Settlement and its Relation to Public Health." At Royal Society of Arts, 18, John-street, Adelphi, W.C.2. 5.15 p.m.



No	BLOCK NAME	LETTINGS COMPRISING:- 5 ROOMS	4 ROOMS	3 ROOMS	2 ROOMS	TOTAL LETTINGS	TOTAL ROOMS	TOTAL PERSONS
1	CHAUCER HOUSE.	-	10	50	60	120	310	620
2	BECKET HOUSE.	2	20	24	44	90	250	500
3	GEOFFREY HOUSE.	2	8	20	24	54	150	300
4*	HARBLEDOWN HOUSE.	5	3	18	12	38	115	230
4*	ROCHESTER HOUSE.	6	4	20	12	42	130	260
5*	UNNAMED.	2	4	17	15	38	107	214
5*	UNNAMED.	5	4	21	12	42	128	256
	TOTAL ACCOMMODATION ON MAIN PORTION OF ESTATE.	22	53	170	179	424	1190	2380

NOTE. THE TERM "ROOMS" MEANS LIVING ROOMS & BEDROOMS (SCHOLLERIES & OTHER DOMESTIC OFFICES NOT DEEMED INCLUDED)

NOTE. FOR REHOUSING CAPACITY A ROOM IS RECKONED TO ACCOMMODATE TWO ADULTS

Mr. G. Topham Forrest, F.R.I.B.A., Architect to the Council. (*See p.* 646.)

THE ELEMENTS AND THEORY OF ARCHITECTURE.–VIII.

(BASED UPON THE FRENCH WORK OF M. GUADET.)

BY T. P. BENNETT, F.R.I.B.A. (*Head of the Department of Architecture, Surveying, and Building, Northern Polytechnic*).

THE ORDERS: IONIC, CORINTHIAN, COMPOSITE, TUSCAN.

The Application of the Order.

The Doric order has been studied in detail because it is typical of all the orders and best expresses the structural origin of individual features. This sense of structure underlies the design of the remaining orders, but is more difficult to detect.

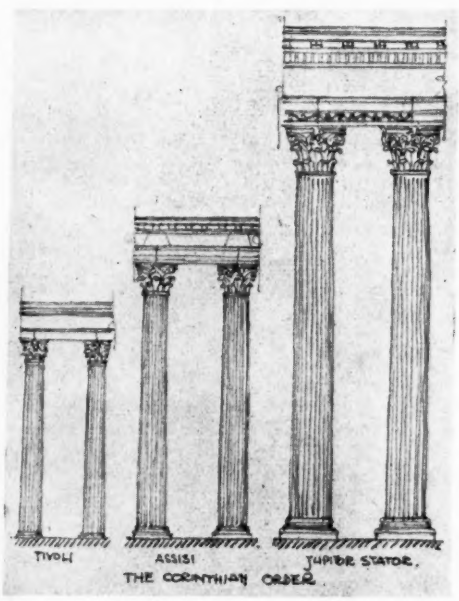
While sparing oneself the symbolism which sees in the base of the Ionic column the shoes of a young girl, in the flutes of the shaft the folds of her robe, in the volutes, the band which binds her hair, it is possible to appreciate the feeling of feminine grace expressed in its detail just as we see masculine strength in the simplicity of the Doric order.

Between the source of origin of the Doric and the Ionic there is evidence of difference. The Doric shows Egyptian influence, the Ionic Asiatic, but both have felt the genius and consummate artistry of Greece, and express above all difference in taste. In the former there is force, majesty of construction, conscious pride, in the latter grace and refined elegance. The Ionic order still shows some direct evidence of a timber prototype as, for example, in the existence of the dentils, but there is nothing analogous to the transposition from wood to stone that is so characteristic of the Doric.

The Ionic order, apart from its archæological classification can be given in ancient examples a practical and simple subdivision into two groups, *viz.* (1) Simple Ionic, (2) Decorated Ionic. The simple examples embrace the type found in the Temple of Nike Apteros and the Propylaea, and the decorated that of the Erectheion and the Temple of Minerva Polias. The difference is shown principally in the capital. In the first case, the shaft is terminated by a simple astragal immediately below the egg and tongue of the capital; in the second a richly decorated band is interposed, and all the mouldings are enriched. In some instances, as at the Temple of Diana at Ephesus, the base is covered with sculpture. Actually the Ionic order offers examples ranging from the greatest simplicity to the utmost richness.

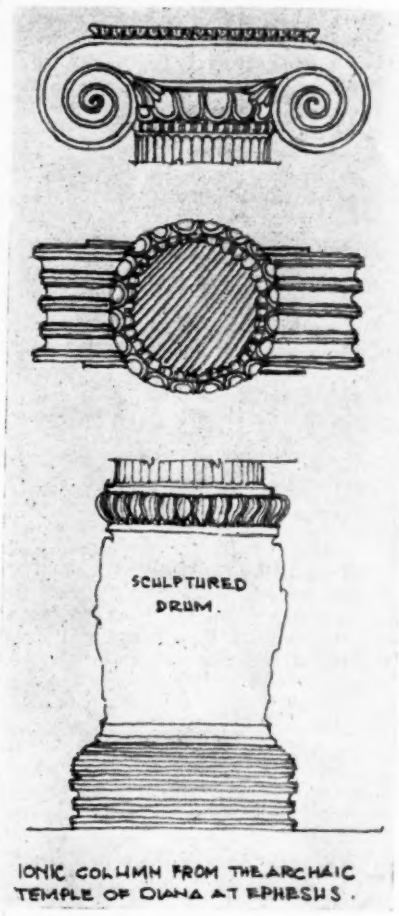
The ancient Ionic orders all have a circular base, although the profile of the base varies largely. The simplest and purest are found in Athenian buildings. Others have a great projection as at Bassae, or a mass of small horizontal mouldings as at Samos. Many show a tendency to employ re-entering mouldings, giving a profile that is not really consistent with the proper function of a base, but if the general mass adequately spreads the load, practical requirements and artistic effect are both achieved.

The shaft of the Ionic column is less diminished and more slender than that of the Doric. It has 24 flutes, each separated by a fillet. The most distinguishing feature is the capital in which the volute is of primary importance. In early examples it has great projection. In Greek Ionic architecture, we get the baluster ended capital with the volute parallel to the face of the architrave. It is much more structural than the Roman horned volute, but presents serious difficulties at the angles of buildings unless a square pier or pilaster is used, and the columns placed "in antis." The Greeks surmounted this obstacle in the Erectheion and elsewhere with a horned angle capital, but although the external angle gives a fair solution to the problem the internal angle is only a makeshift. When, as in many of the Roman Atrii, there are only four columns,



one at each angle, the horned capital becomes a necessity, and growing out of this, or because of the constantly recurring difficulty of the angle column, the Romans entirely discarded the use of the baluster-ended capital.

The entablature is composed of an architrave frieze and cornice. The architrave loses the perfectly structural form found in Doric examples, and is sub-divided into three faces, each slightly in front of the one below, decoration being sometimes added in the form of rosettes. The crowning fillet is changed to a moulding generally enriched. The frieze is either plain as at Priene, Pompeii and the Temple of Nike Apteros, or enriched with sculpture in flat relief as at the Erectheion.



The cornice at the Erectheion is extremely simple, consisting of little more than the drip, but in other examples there is a deep bed mould enriched with carved mouldings, and the typical Ionic ornament, the dentil. The carving in the Erectheion is varied in detail to suit the light falling upon it and should be carefully studied.

The beams of the ceiling occur in many examples at the top of the architrave and are, therefore, in the most logical position.

The Corinthian order, at first employed sparingly and in isolated positions, became later the order in universal use among the Romans.

Undoubtedly its richly decorative character appealed to the Emperors and was in accordance with the social ideas of the Roman epoch. We might say that the Doric order is the order Republican, the Corinthian order the order Imperial. It is interesting to see it in its origin in the architecture of Greece. The best known and the richest example is, of course, that from the choragic monument of Lysicrates. In the design of this monument, the Greek architect possibly allowed his imagination a freedom he would have considered foreign to the decoration of a temple or the utility of a gateway, fresh proof of the freedom and elasticity of features often regarded as rigid in type and detail.

Apart from the capital of the column there is not in Greek architecture any fundamental difference between the Ionic and Corinthian orders, there is only a tendency towards greater richness.

The capital is in all cases bell-shaped, surrounded by leaves based upon the acanthus and applied in a variety of ways. From these leaves grow scrolls which support a thin abacus concave on the four sides, inscribed in a square with truncated angles. In some examples, as the Tholos at Epidauros, the bell or vase shape is much in evidence; in others, as the monument of Lysicrates, it is almost entirely hidden. The

entablature to the Tholos at Epidauros is interesting because it provides us with a Greek architect's idea of the section of an internal cornice, the drip being entirely suppressed because it has no practical value. It should be borne in mind that most of the Corinthian orders were executed in marble and that the detail, unless considerably modified, is unsuitable for execution in other materials.

The oldest Roman Corinthian orders are the most robust, later ones more slender, falling at times into somewhat extravagant fantasy, as in the use of rams' heads in place of the more suitable and structural volute.

The richness of the capital is reflected in the entablature. The modillion is a characteristic ornament often relatively of great importance and richly carved. It is not, strictly speaking, of real structural value, although it allows the corona of the cornice to have great projection. Not until the time of the Renaissance in Florence do we get modillions which are used primarily for structural purposes. In many examples the frieze is richly carved, in others the ornament is confined to the architrave and cornice. In all, vitality and wealth of detail are strongly in evidence.

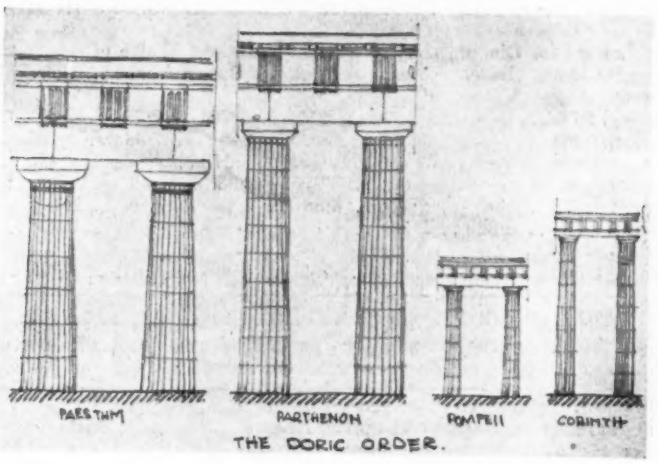
The Corinthian order is the order of colour. The interior of the Pantheon is resplendent with marble surface decoration. In many instances the Corinthian column was constructed of coloured marble, although in antiquity the mistake of using figured marbles with fluted shafts is avoided. Granite was often employed. If the colouring is of one tone, as "jaune antique," the shaft is often fluted.

In no order is detail so much dependent upon scale and the actual relative sizes of the orders should always be borne in mind when ornament or subdivision is under consideration.

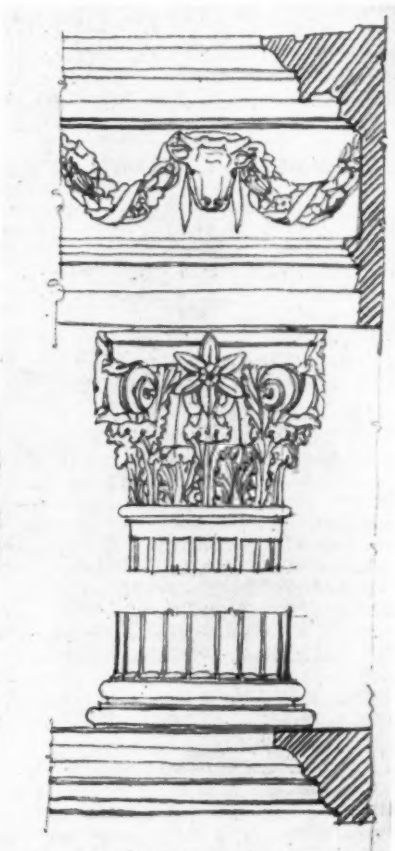
The Composite order is only one variation of the Corinthian. It takes more than a difference in a capital to create a separate order, and it is as a subdivision of the Corinthian that the Composite order should be studied. A classification which recognises such slight differences as justification for a new order would, if logically developed, create a hundred different orders with consequent useless complication and confusion of thought.

For this reason the Tuscan order should not be regarded as a separate order. It is simply a modification of the Doric order. It has no special characteristics; it has not even a capital with fundamental differences.

The character of severity, however, combined with a simple treatment and wide column spacing in some ways, gives weight to the statement of M. Lesueur, that the Tuscan order is an order of stone with an entablature of wood. A possible example existed at Pompeii. The wood lintel rendered possible a much wider spacing than that obtainable in stone. The rafters of the roof rested directly upon the architrave, which became a sort of wall plate and the frieze was automatically eliminated. The simplicity and what might, perhaps, be called the rusticity of this arrangement, reappears in some of the Florentine palaces, and we get a spirit that is Tuscan even if actual columns and entablatures are not employed.



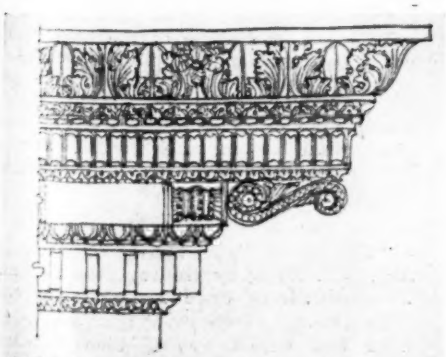
THE DORIC ORDER.


THE CORINTHIAN ORDER FROM THE TEMPLE OF VESTA AT TIVOLI.

These papers deal with the theory of architectural design and not with the history of architecture, and, therefore, the study of the various examples of the orders as generally understood would be out of place. This study is, however, of the utmost importance and every opportunity for its development should be embraced with avidity. The delineation by modules and the standardisation of the order, so general amongst recognised authors, is open to very grave criticism. It leads to a stereotyped conception of Greek and Roman work that is totally at variance with facts. It is obvious that very small orders cannot have exactly the same detail as very large orders, and *vice versa*. The great architects of Greece and Rome realised this as well as and perhaps better than we do. It should be noted that the orders of antiquity were of various sizes, and that orders of different heights were not infrequently used in the same building. The simplification of Greek Doric was so great that the variation in detail was small, but in Ionic and Corinthian buildings the variation is considerable.

It should be further realised that, without losing the outstanding quality of any order, for example, the masculinity of the Doric or the elegance and grace of the Ionic, there is room for many shades of feeling, and variations within these limits are found among ancient examples. Doric orders are illustrated from Paestum, the Parthenon, the Temple at Cora, and the Triangular Forum at Pompeii, and the dimension of these orders with others are given in tables "A" and "B." With the help of illustrations always readily obtainable in the form of photographs or drawings, these tables give information which will enable the modern designer to set out an order accurately and so obtain the exact feeling he wishes to infuse into his composition.

The only dimension that varies little is that in the last column of table "A," *i.e.*, the actual net span of the lintel or the element of fragility of the construction. The one that is widest is the Parthenon, constructed in marble. Thus there is very strong presumptive evidence to indicate that the design of the Greek Temple


CORINTHIAN CORNICE
TEMPLE OF CONCORD. ROME.

CAP AND BASE OF IONIC ORDER FROM TEMPLE OF APOLLO BASSAE.

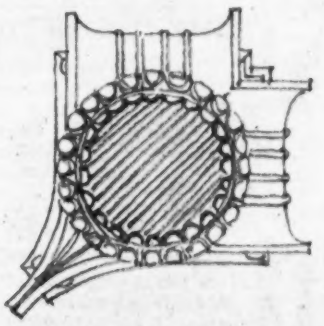

PLAN OF ANGLE CAPITAL FROM THE TEMPLE OF NIKE APTEROS.

TABLE A.—DORIC ORDER (ACTUAL DIMENSIONS IN METRES).

Monument.	Lower Dia. of Column.	Dia. of Base.	Entre Axe.	Height of Col.	Height of Entab.	Width of Abacus.	Free Passage between Cols.	Free Passage between Bases.	Free Passage between Abaci.
1. Paestum, Great Order (Exterior)	2·064	—	4·474	8·555	3·861	2·60	2·41	—	1·874
2. Do. (Interior)	1·364	—	3·50	6·05	—	1·88	2·136	—	1·62
3. Parthenon	1·874	—	4·299	10·434	3·279	2·02	2·425	—	2·279
4. Propylæa (Large)	1·54	—	3·62	8·775	3·03	1·66	2·08	—	1·96
5. Do. (Small)	1·075	—	2·526	5·86	1·899	1·16	1·451	—	1·366
6. Temple de Cori	0·716	0·868	2·25	6·188	0·969	0·810	1·534	1·382	1·44
7. Pompeii Triangular Forum	0·555	—	2·215	4·066	0·981	0·625	1·66	—	1·59

TABLE B.—DORIC ORDER (PROPORTIONAL VALUES).

Monuments.	Proportion to Diameter. To Entre Axe.	To Height of Column.	To Height of Entab.	To Height of Entire Order.	Proportion to Height of Column. To Entre Axe.	To Entab.	To Entire Order.
1. Paestrum, Great Order (Exterior)	2·168	4·290	1·871	6·161	0·505	0·436	1·436
2. Do. (Interior)	2·566	4·435	—	—	0·579	—	—
3. Parthenon	2·294	5·568	1·749	7·317	0·412	0·314	1·314
4. Propylæa (Large)	2·351	5·698	1·967	7·665	0·413	0·345	1·345
5. Do. (Small)	2·349	5·451	1·766	7·218	0·431	0·324	1·324
6. Temple de Cori	3·142	8·642	1·353	9·996	0·364	0·157	1·157
7. Pompeii Triangular Forum	3·991	7·326	1·768	9·094	0·545	0·241	1·241

These figures show that the ancient Orders varied within very wide limits, and by no means displayed the rigidity suggested by Vignole, Palladio and others.

TABLE C.—IONIC ORDER (ACTUAL DIMENSIONS IN METRES).

Monuments.	Lower Dia. of Col.	Dia. of base.	Entre Axe.	Height of Col.	Height of Entab.	Free Passage between Cols.	Free Passage between Bases.
1. Temple of Nike Apteros	0·522	0·728	1·41	4·07	1·16	0·888	0·682
2. Propylæa	1·065	1·385	3·65	10·275	—	2·585	2·265
3. Erectheion	0·675	0·975	2·05	6·575	1·49	1·375	1·075
4. Temple of Minerva Polias	0·84	1·24	3·09	7·637	1·683	2·25	1·85
5. Temple at Priene	1·255	1·75	3·51	11·68	2·76	2·255	1 76
6. Forum at Pompeii	0·645	0·88	2·195	6·307	1·158	1·55	1·315

TABLE D.—IONIC ORDER (PROPORTIONAL VALUES).

Monuments.	Proportion to Diameter. To Entre Axe.	To Height of Column	To Height of Entab.	To Height of Entire Order.	Proportion to Height of Column. To Entre Axe.	To Entab.	To Entire Order.
1. Temple of Nike Apteros	2·701	7·797	2·222	10·019	0·346	0·287	1·287
2. Propylæa	3·427	9·648	—	—	0·355	—	—
3. Erectheion	3·037	9·747	2·207	11·955	0·312	0·226	1·226
4. Temple of Minerva Polias	3·678	9·091	2·003	11·085	0·405	0·219	1·219
5. Temple at Priene	2·797	9·307	2·199	11·507	0·301	0·236	1·236
6. Forum at Pompeii	3·404	9·778	1·795	11·574	0·348	0·183	1·183

TABLE E.—CORINTHIAN ORDERS (ACTUAL DIMENSIONS IN METRES).

Monuments.	Lower Dia. of Col.	Dia. of Base.	Entre Axe.	Height of Col.	Height of Entab.	Free Passage between Cols.	Free Passage between Bases.
1. Temple at Assisi	1·03	1·24	2·925	11·17	1·743	1·895	1·685
2. Do. at Tivoli	0·754	1·02	1·996	7·132	1·096	1·242	0·976
3. Do. of Vesta at Rome	0·91	1·18	2·433	10·295	—	1·493	1·273
4. Do. of Mars the Avenger	1·786	2·532	4·32	17·624	—	2·534	1·788
5. Do. of Antoninus and Faustina	1·48	2·04	3·687	14·17	3·29	2·207	1·647
6. Do. of Jupiter Stator	1·48	2·048	3·776	14·806	3·523	2·296	1·728
7. Pompeii, House of the Labyrinth	0·68	0·92	3·70	6·091	—	2·02	2·78

TABLE F.—CORINTHIAN ORDERS (PROPORTIONATE VALUES).

Monuments.	Proportion to Diameter. To Entre Axe.	To Height of Column	To Height of Entab.	To Height of Entire Order.	Proportion to Height of Column. To Entre Axe.	To Entab.	To Entire Order.
1. Temple at Assisi	2·839	10·844	1·692	12·537	0·262	0·156	1·156
2. Do. at Tivoli	2·647	9·459	1·454	10·912	0·280	0·154	1·154
3. Do. of Vesta at Rome	2·588	10·952	—	—	0·236	—	—
4. Do. of Mars the Avenger	2·419	9·868	—	—	0·245	—	—
5. Do. of Antoninus and Faustina	2·491	9·574	2·229	11·797	0·260	0·232	1·232
6. Do. of Jupiter Stator	2·551	10·004	2·38	12·384	0·255	0·238	1·238
7. Pompeii, House of the Labyrinth	5·443	8·957	—	—	0·607	—	—

was governed largely, if not entirely, by the needs of construction.

The Doric order in the Renaissance, while not so common as in Greece, is represented by some excellent examples and shows refreshing variety and interest. Tables, such as "A" and "B," constructed from Latourilly, would be most instructive.

The Ionic Order, although susceptible to more variation in detail than the Doric, has proportions which show greater similarity, as the tables "C" and "D" indicate.

There are many Ionic orders in Renaissance and modern work worthy of close study, and tables showing their dimensions might be similarly constructed.

The Corinthian order (see tables "E" and "F") varies both in proportion and detail. The principal examples in antiquity occur in Roman work. In using the Greek examples, it should be borne in mind that they were mostly employed in isolated positions or in small temples or monuments.

Renaissance and modern examples should be studied as in the other orders.

BOOK REVIEW.

Town Theory and Practice, with an Introduction. By C. B. PURDOM. London: Benn Bros. Price, 5s. net.

Few will deny that the Government failed to fulfil the great housing programme that it set itself in 1919; nevertheless, it should with justice be admitted that indirectly the results of its housing activities are very far-reaching and permanent, albeit not of the national kind whose value is most easily appreciated. The results to which we refer include a higher standard of housing and an increased civic consciousness. There is now a wider recognition and appreciation of town-planning ideals than existed before the war. It is, therefore, an opportune moment for a clear, straightforward and moderate statement of these ideals, which are, despite the increased consciousness to which we refer, still far from realisation. This volume consists of a collection of five essays, all the authors of which are able to write with authority on various aspects of the subject; the essays, however, are characterised by a lack of vigour. Realisation of the composition of the ideal town is of the utmost value, but more facts are required to stimulate and arouse lay interest, and we presume it is to the layman that the book is primarily addressed, for although the title is comprehensive, theory so predominates that there is but little practical or technical information. The value of the book would have been increased for every class of reader had more space been devoted to practical matters, particularly those connected with finance. The term "garden city" is so loosely used that Mr. Purdom does well in his introductory chapter to insist that it has a very definite connotation, and to proceed to quote the definition laid down by the Garden Cities and Town Planning Association in 1919: "A garden city is a town planned for industry and healthy living; of a size that makes possible a full measure of social life, but not larger; surrounded by a permanent belt of rural land; the whole of the land being in public ownership or held in trust for the community." We hope the book will be widely read, for many of the aspirations which it contains are an aspect of that striving towards better conditions for mankind which has recently received its fullest recognition at the Washington Conference.

Books Received.

"THE STUDIO" YEAR-BOOK OF DECORATIVE ART, 1922. Edited by Geoffrey Holme. (London: *The Studio*, Ltd.) Price 7s. 6d., in wrappers.

THE PROPERTY OWNERS' HANDBOOK. Compiled and edited by M. Cheverton-Brown. (London: A. Brown & Sons, Ltd.) Price 5s. net.

EXHIBITION NOTES.

CAMBERWELL SCHOOL OF ARTS AND CRAFTS: EXHIBITION OF STUDENTS' WORK.

If Peckham appears in good society merely as an obscure region hardly to be named, as almost non-existent to it, it is none the less to be doubted whether the former cannot actually give a better account of itself than the latter. May not conversion, in fact, come from Peckham? It is, in any case, an interesting commentary on the changed point of view which has come over the social problem that we are now more concerned with the conversion of Mayfair than of Peckham! It is true that you have to reach the place, but it is worth it, because it can probably show better architecture than South Kensington, and as good municipal craft training as can be seen anywhere. And the present exhibition at the South London Art Gallery gives evidence of the very sound direction of this teaching. The freedom allowed to the students to develop themselves, outside of any too close supervision or adherence to a system, gives to the work of the school a vivacity and character which is most encouraging. The school is under the direction of Mr. Stanley Thorogood, and great credit is due to him and his assistants. There is work of much variety shown, including typography and lettering, design, colour designing, figure composition, bookbinding, embroidery, and last, but not least, pottery, which we should expect in the circumstances to give a good account of itself. Some of the examples shown in the typography section were awarded a gold medal at the Printers' Exhibition. The first year plant drawings in the Junior Art Course show undeniable ability and good method. The incised lettering on stone shown in the modelling section has distinction; we wish there were more of it in our cemeteries. In the designing section, there is much freedom and variety; and the contributions by students from fourteen to fifteen show a good deal of originality. The noticeable thing about these designs is that they exhibit in less degree than usual those merely derivative influences that are current at the present time, and have a touch of native character. The proportion subsisting between the latter and these more superficial influences is a factor of much importance, and that the directors encourage this self-development is all to the good. The drawings of still life in body colour by a student aged fifteen are very pleasant and certain in treatment. There is poster designing, of course, not perhaps the best work shown, though creditable enough. The pen-and-ink drawing is very competent, and there is figure composition shown that is not without the influence of Lovat Fraser. A panel of embroidery, by E. Cleaver, of a little bird in a tree, is attractive; and there is some good lace by E. Treacher. The pottery shown is of much interest, and gives evidence of a craft training carried on with a full understanding of its requirements. The students can analyse the clays, make the vessels, fire them, glaze them, decorate them, in full knowledge of the conditions of their work, so we find the materials used made to yield up their characteristics, the clay not hidden by the glaze, but coming through it, so contributing the full effect of both. In one of the cases we were shown by Mr. Alfred G. Hopkins, the master in charge, a pot of this class, in which the glaze had no colour, but drawing out the colour in the clay revealed a surface of fine broken bluish hue. Some good tiles are shown, moulded terra-cotta and flat glazed tiles: the latter of good colour and delightful broken surface, results which have been obtained rather by sound craft methods than any special cost involved to their production. Such tiles have only to be better known to be in much demand by architects. It is ridiculous that we should depend so much on Dutch tiles and pay a price that very often is excessive, when we have excellent native work of our own. These good tiles illustrate a point on which there is much popular misunderstanding. Things are not necessarily bad because cheap and good because they are expensive. They are good because produced in the right way, under conditions of sound craftsmanship; and there is economy in this, not greater expense. The manufacturer is gravely wrong when he encourages the idea that a good thing, one of beauty and sound craftsmanship, cannot be produced under ordinary industrial conditions. The problem is primarily one of knowledge and appreciation, not price. The sound training employed in a school like this should react later on our industries to their great improvement, for the better results achieved are wholly applicable to industry. The manufacturer should see that it is to his advantage to accept the authority of a practice which is better than his own, and that he is neglecting resources which would add greatly to the value of his work, and that it is his obligation to incorporate them. For sound practice does not increase the cost of a trade product, it is only putting to fuller economical use the resources the manufacturer has already in his hands.

But in such a welcome improvement as is to be observed in this school, it must be remembered that though sound practice precedes beauty, it is only the means to an end extending beyond itself. One can excuse and even welcome the optimism which thinks it knows everything, but this ulterior purpose must always be before us, and it is the most difficult of attainment because it is only the least part of art that can be learned. A sound craft practice as its basis, and that practice ennobled by an adequate sense of human claims—nothing less can embody what is required of the time. We hear much of the "soul" of democracy, but first it must have a fair body in which to dwell, and to raise up a sound practice on firm principles is to build its dwelling-place. For its work will thus be the expression of its soul, and will then no longer reflect merely the passing fashion, creating wants, and taking the colour of some prevailing but transitory impulse. Thus, resting again on itself, reflecting the corporate aim of a people disciplined and enlightened enough to make their industrial contribution one to beauty, as well as use, it will ennoble the common life. Let the enthusiasm which an intelligent direction encourages in the students, and this school is full of it, take fire from this further aim, for it is a cause which may well re-kindle the enthusiasm of a generation emerging out of the night, out of the materialism which has nearly laid Europe in ruins.

There is need of caution lest the abuse of applied ornament—of finding it too easy—should lead us to forget that this is "the second, not the first." In the case of pottery, for instance it is fitness for use, material, shape and glaze, developing through one another in consistent growth that gives us the good result, not a lot of ornament; and this brings us to a further point. Fine design is difficult, rare, the result of a gifted nature. In the escape from derivative sources, the re-iteration of the forms of Eastern and European ornament, which has led to so much excess, we must not forget that our own design should be strongly held by the restraints of native example and tradition, and we should not seek a too conscious originality. Sound craftsmanship is our concern and the art may be left to happen if it can, and if we are truly to express ourselves we shall introduce much less of it. Good workmanship—in this lies an "ideal" quite large enough; let us recover this and the rest will happen of itself.

That there are many problems connecting with the developing scope of municipal craft teaching cannot be denied. A school such as this Camberwell School of Arts and Crafts is likely to develop a demand for its work and take orders from the trade, with special facilities arising through its endowments and students to supply it at a cheap price. In becoming producers—were this to be the case—a competition would be set up disastrous to the independent worker, and all to the advantage of the rate-aided school. The student also has to realise that when he leaves and his place is filled by other students he may find in such a case the opportunity which should reach him, and for which he has been trained, and on which also he depends for livelihood, diverted to the school. He contributes as a rate-payer to that which undersells him. This is a problem not to be quarrelled over, and for which a solution should be found. This Camberwell School is doing sound teaching work, admirably conducted, and is not, therefore, to be deprecated or discouraged. How are we to reach a solution of this cause of difficulty? The absurd system through which the grant is dependent on the numbers instead of the efficiency, and which is so detrimental to the best results, can hardly be continued much longer.

THE INTERNATIONAL SOCIETY OF SCULPTORS, PAINTERS AND GRAVERS.

We have seldom found so much interest in an exhibition of the International Society of Sculptors, Painters and Gravers, as in the twenty-eighth, just opened at the Grafton Galleries. In the Octagon Gallery we at once note the preponderance of good things, such as the beautiful "Harvest Time," by the late A. E. Walton, the portraits by McEvoy and Fantin-Latour, "The Slum," by James Pryde, "Grim Spain," by Oliver Hall, two clever pieces by A. J. Munnings, the striking picture of a Versailles pond by Alexander Jamieson, and his "Estaminet in Bruges," and the able bronze of "Femme Assise" by M. L. Cladel. The large gallery holds some telling portraits, such as those by the newly-elected Associate, Gerald Kelly, and others by Ambrose McEvoy, Alfred Hayward, Jacques-Emile Blanche, and the fascinating "Rhoda" by Oswald Birley. There is, besides, the fine full-length of Mrs. Bischoffsheim by Sir John Millais. A sweet study of the nude by Eugene Paul Ullman is "Devant le Rideau," which shows how completely coarseness and vulgarity can be eliminated from such studies. The landscape pictures are a source of pleasure, not only for such arresting force of cloud effects as in the widespreading landscape by Sir John Lavery of "North Berwick," but in much less ambitious and even more gratifying ways, like the two beautiful landscapes by Borough Johnson and A. D. Peppercorn (Nos. 126 and 125). The small picture of "The Staircase," by Constance Rea, is an example of unity in good colour and drawing, and "Rag Alley," by Jas. Pryde, and "The River," by H. Mann Livens, will not be overlooked. There is some very strong modelled work in portrait heads of Ingres, by Bourdelle, and Clemenceau, by H. de Groux. The "Grief," by Bartholomé, includes a refined piece of modelling in the figure of the nude woman. One subject which especially appeals to us is the quaint and sprightly little figure of the small faun by Gertrude Knoblock (*See p.* 639). It is a pity that work like this excellent little figure does not find more encouragement, for such leaden garden ornaments are worth having. The Centre Gallery shows a variety of character, and amongst the best subjects may be named the "East Coast Seapiece," by Nelson Dawson, the finely expressed sunlight in "The Hammock," by Algernon Talmage, the well-composed landscape, "Corfe Castle," by Francis Newberry, and a pleasant portrait, "Beatrice," by Dorothea Landau da Fano. The sculpture in this gallery will not be overlooked, and its fantastic quaintness may be even admired by some. The End Gallery contains quite a large number of small drawings and paintings which it would take long to particularise. Excellent work will be found by H. D. Richter, Nelson Dawson (charming chalk landscapes), Russell Flint, Jas. Pryde, E. J. Sullivan, Léon Bakst, Sargeant, and others.

New School of Hygiene.

The Ministry of Health announces that in connection with the proposed School of Hygiene, the Rockefeller Foundation has, on the recommendation of the Ministry, acquired an admirable site, bounded by Gower-street, Keppel-street, and Malet-street, Bloomsbury. The situation is central, and adjoins the land preserved by the Government for the new buildings of the University of London.

ARCHITECTS' WELCOME CLUB.

RECEPTION AND DINNER AT OLYMPIA.

THE Architects' Welcome Club held a reception at the Building Trades' Exhibition, Olympia, on Friday afternoon last week. The guests were received by Mr. Paul Waterhouse (President of the Royal Institute of British Architects), Mr. E. J. Sadgrove (President of the Society of Architects), and Mr. W. G. Newton (President of the Architectural Association). Musical selections were rendered during the afternoon.

Among those who attended were Sir Francis Fox, Mrs. Flinders Petrie, Mr. Arthur Keen (Hon. Secretary of the Royal Institute of British Architects), Mr. Edward Warren (Berks, Bucks, and Oxon Architectural Association), Mr. Walter Cave, Mr. A. T. Walmisley, Mr. A. J. Forsdike (past-President of the National Federation of Building Trades' Employers), Mr. W. R. Davidge, Mr. H. V. Ashley, Mr. H. Winton Newman, Mr. Roland B. Chessum (President of the London Master Builders' Association), Mr. Alan Munby (President of the York and East Yorkshire Society of Architects), Mrs. Munby, Mr. S. B. Russell, Mr. E. J. Brown (Director of the London Master Builders' Association), and Mr. O. P. Milne.

The Dinner.

In the evening, a dinner, organised by the Club, was held, under the chairmanship of Mr. Paul Waterhouse, when among those present were Sir Lawrence and Lady Weaver, Mr. A. J. Forsdike; Mr. J. W. Lorden, M.P.; Mr. Roland B. Chessum (President of the London Master Builders' Association); Mr. E S. Beal (Master of the Worshipful Company of Plumbers); Mr. E. Fiander Etchells (President of the Concrete Institute), Mr. N. Scorgie (President of the Institution of Municipal and County Engineers); Mr. Arthur Keen (Hon. Secretary, R.I.B.A.); Mr. Ian MacAlister (Secretary, R.I.B.A.); Mr. W. R. M. Lamb (Secretary of the Royal Academy); Mr. Alexander Goddard (Secretary of the Surveyors' Institution); Mr. E. Guy Dawber; Mr. H. P. Cart de Lafontaine, A.R.I.B.A.; Mr. Edward J. Partridge (Hon. Treasurer of the Society of Architects) and Mrs. Partridge; Mr. W. G. Newton, A.R.I.B.A. (President of the Architectural Association); Mr. and Mrs. Manning Robertson; and Mr. Rudderham (Secretary, London Master Builders' Association).

"Architecture and the Building Industry" was proposed by MR. H. GREVILLE MONTGOMERY, who said the toast looked to be a very formidable one on paper, but he could assure them he was not going to take up their time by any disquisition on architecture and the building industry. To tell the truth, the only interest he had in either at the moment was concerned with the Exhibition, although it would be a good thing if they could have some information concerning the £350 houses that they were informed by Sir Kingsley Wood and the Minister of Health was within the range of practical politics.

The CHAIRMAN, in responding, said they were much indebted to Mr. Montgomery for what he had done for that Exhibition. He was a man of force, and he (the Chairman) wished him success in connection with future exhibitions. Proceeding, Mr. Waterhouse said it was always difficult to reply on behalf of architecture, but he was proud to represent the art, particularly at a gathering which included members of the building industry. The callings of the architect and the builder were more closely knit together at the present time than at any period in his life, and, more and more, as years went on, they got to know each other better. That common understanding was the truest basis for good fellowship and good work. An exhibition of the kind they were holding illustrated what that friendship meant. He (the Chairman) had no use for the aloof architect; an architect on a desert island was impossible. There was one thing about architecture which always pleased him. It was a kind of subject that a man could talk about in his home. Architectural "shop" was not half bad stuff, and he had known a man's wife interested in the art! The present was a time of hope, and the exhibition was a sign of hope for both the architect and builder. In conclusion, he cordially welcomed M. Augustin Rey, of the Société Centrale des Architectes Français, and trusted that M. Rey would convey to his organisation the fraternal greetings of British architects.

MR. A. J. FORSDIKE (past-President of the National Federation of Building Trades Employers) also responded, and said they would realise how difficult it was for a builder to attempt to address an assembly of architects after the speeches they had heard. In the ordinary course of things, the architect did the talking and the builder did the listening—sometimes to his regret. That was not the case that evening. The speaker recalled that, since speaking in the Exhibition a few days previously, he had heard that he upset the builders of London very considerably because he said the builders in the provinces had a very good time during the war, while those in London had been suffering very severely; but that evening he did not want to do the same thing. Alluding to the remarks of the Chairman as to the improved relationship between architects and builders, Mr. Forsdike said he had always been of opinion that there was no earthly reason why they should not have the closest relationship. Their interests were so intermingled that it was to the advantage of both that the best feelings should exist between them. The more they could be associated on occasions of that sort the more they got to know one another. The building industry had gone through remarkable changes during the last few years, and their difficulties had not yet been brushed out of the way, although they were progressing towards that desirable end. The trade, at the present time, was suffering from abnormal costs, but that had come about from circumstances over which they as employers of labour had not had much control. The position had been created by the abnormal demand on the one hand and the scarcity of supplies on the other. They were getting somewhat out of those difficulties now, and he believed that if they would all put their shoulders to the wheel there was every prospect of the building industry regaining its former position.

MR. E. J. SADGROVE (President of the Society of Architects) suitably proposed "The Guests."

M. AUGUSTIN REY, replying in French, said happiness was born of sincerity, and the architect must above all be sincere. The architect was no politician; he did not build in the clouds, but was in fact a veritable recorder of history. Under the influence of time many things might pass away, but some work of the architect remained, some monument, some public building, or perhaps a church. The architect, in truth, played a great social part, and his responsibilities were great. It was his duty to design homes in which families could find comfort and happiness. Great Britain, continued M. Rey, had done admirable and courageous work in attacking the housing problem. Slum areas had been reconstructed, and gigantic improvements made which were a revelation. As time went on they watched the city penetrating into the country and the country penetrating into the city.

SIR LAWRENCE WEAVER also replied and said he wished to propose a toast which was not on the list, and that was the health of the Chairman, who had presided so admirably.

The toast was cordially honoured, MR. WATERHOUSE briefly acknowledging.

Fancy Dress Ball.

Following the banquet, a very successful fancy dress ball, organised by the Architectural Association, was held in the Conference Hall. The ball was preceded by a carnival procession, which included "Brighter London Streets," and afforded the opportunity for the display of considerable ability in the production of picturesque grouping and effects. The ball itself was an unqualified success, on which the Association and all who took part are to be congratulated. The Hall was effectively lighted and charmingly decorated.

On Saturday evening a smoking concert was held in the Conference Hall.

Cast-iron Fanlight Grille and Door Grille at St. Pol, France.
From a measured drawing by MR. J. S. HARDIE.

Yarrow Church Burned Down.

The ancient Border parish church of Yarrow, near Galashiels, has been destroyed by fire. Yarrow Kirk was situated in the Vale of Yarrow and had a curious old sundial on it.

Spitalfields Market Alterations.

The Corporation of London is seeking powers to carry out improvements at Spitalfields Market, for which it requires to borrow £2,000,000. For a long time past there has been enormous congestion, not only in the market but in the streets outside. The accommodation of the market is to be practically doubled; Lamb-street will be widened from 40 ft. to 60 ft., Brushfield-street from 40 ft. to 60 ft., and Steward-street from its present width to 80 ft., widening out to 120 ft. There will be no access to the market from Commercial-street, so that the present congestion in this thoroughfare will be greatly relieved.

"THE ENGLISHMAN'S HOUSE."

A LECTURE on "The Englishman's House: A Talk to People Who Know Nothing of Architecture," was given by Mr. Nathaniel Lloyd, O.B.E., in the Cinema Hall, Olympia, on Thursday evening last week. Mr. Walter Cave, R.I.B.A., presided in the unavoidable absence of Lord Leverhulme.

Mr. Lloyd said he recently visited an exhibition of drawings by leading American architects of important buildings erected in the United States during the last thirty years. As a collection of impressive edifices the exhibition would be difficult to surpass. Both Greek and Roman orders had been used with scholarship and with skill, but amongst them all there was not one building which could really be called a home. He came away from the display without any better idea of what their architects had done or were doing to create buildings for homes than he had when he entered. He thought the exhibition was typical of the attitude of the average English person in whose mind the word "architecture" conjured up impressions of cathedrals, churches, public and other monumental buildings. Such erections were important, but they were only of secondary importance to them personally; those which were of primary importance to them were houses to live in. Habitations were the first buildings and were the architectural parents of the public buildings which had come to be recorded as architecture. Most buildings erected prior to 1820 had architectural merit; some of those erected since had merit also, but many had no merit whatever. The consequence was that the majority of people in this country found it difficult to distinguish between the few buildings which were architecturally good and the many that were not. Further, they did not know where to begin to learn about those things, and the field of architecture was so vast that it was difficult to indicate to the inquirer where and how he should begin.

He proposed, however, to bring before them what might be regarded as an elementary and rather informal disquisition into the architecture of the Englishman's house. Commencing with a bark-peeler's hut, Mr. Lloyd traced the development of building construction from prehistoric times to the present He had often noticed, he said, that when people who had not studied the subject looked at a picture of a building they were at sea, so to speak, because they did not know how to look at it or where to begin. Some people's taste in architecture was for what they called "quaintness." The house agent knew that and employed the word to describe any mongrel structure. Good architecture was made up of many components, the successful use of which denoted the capable architect—proportion, lights and shadows, solids and voids, accent, colour, texture, and such qualities as restraint and dignity Proportion was by far the most important of those constituents, and was the one which was most frequently neglected. A building that was well-proportioned was sure to be good architecturally, though without ornamental accessories, but no elaboration would compensate for bad proportions. Large sheets of plate glass might be necessary for shop windows, continued Mr. Lloyd, but their utility in houses was altogether overrated. All kinds of artistic composition had much in common, and that was also the case where architectural and literary compositions were concerned. Architectural composition required the equivalent of emphasis in a sentence or accent on a word. For many centuries architects had emphasised their compositions by accenting some feature.

Another quality of importance was restraint, while, with regard to colour, the best for any building were the colours of local building materials, as stone in a stone country, brick and tiles in a clay country, and so forth. There was great scope for ability in selecting such materials; as much scope as there was variety of them. In conclusion, Mr. Lloyd demonstrated how a building might be improved, choosing a pair of cottages for the purpose.

The lecture was illustrated with a series of limelight views, those showing old English seats being particularly charming. At the close, Mr. Lloyd was cordially thanked by the chairman.

PERMANENT COLOUR SCHEMES.

THE Earl of Crawford and Balcarres presided on Tuesday at a meeting at Olympia, when Mr. Halsey Ricardo gave a lecture on "Permanent Colour Schemes."

Mr. Ricardo said the architect's use of glazed ware might be classed for convenience sake into three divisions, according to the purposes for which he used it—either on hygienic grounds, or for the purpose of saving or reflecting light, or for decoration. These three divisions blended and shaded off, of course, into each other; and sometimes all three objects were obtained simultaneously in one scheme of decorative work. More often a combination of two requisitions only was secured, as in the case where tiles were used to line underground passages, railways, lavatories, dark rooms and courtyards. That evening he would pass from the builders' and plumbers' use of the material and would consider mainly the employment of glazed ware as a mode of decoration. Incidentally for this form of decoration he would claim the collateral advantages it afforded both as regarded the economy of light and the wholesomeness of the practice of covering one's walls with an impervious glaze, but the decorative treatment was what he would most concern himself with, considering its use and what should be the architect's attitude in regard to this method of architectural enrichment. The use of permanent coloured material was no new one, for the method was practised by the Assyrians 4,000 years ago. Mr. Ricardo showed a number of illustrations of Persian buildings, and said Persian influence had coloured India and the shores of the Mediterranean. It was impossible to look at the Moorish work of North Africa and of Spain and not feel the Persian influence exhibited, and, indeed, much of the work must have been done by actual Persians carried in the train of Arab conquerors. In the Middle Ages and outside the influence of Persian art there was tile making, but the tiles so made were for pavements, and later on for roof coverings. The floor tiles were made glazed, but the glaze soon wore away. When the revival of letters and classic lore and antique art set in every craft was touched by its influence, and pottery had its renaissance as well as sculpture. But the tile makers drew their new inspirations not so much directly from the past as from Spain, and thus in a roundabout way came under the influence of Persia. The Arabs invaded Spain in A.D. 711, and remained there, so far as their influence on the tile trade was concerned, until 1610. The Alhambra was begun in 1272, and the tiles which decorated that were the oldest and most interesting in Spain. Their repute widened, and Spanish tiles spread far and wide. They were exported in considerable quantities to Genoa and Naples, and, in company with the European craftsmen, found a market in India. This passionate desire for permanent colour on buildings was due in a great measure, he thought, to the nature of the localities in which they occurred. Both in Persia, Tunis, and in the Spanish Sierras they were in the presence of arid wastes. Generally speaking, there was no colour about these cities which was not of man's nurture or manufacture, and the great function of these ornamental tiles was to catch the fleeting glories of the fields and gardens in their large and crowded towns. Nature's restless activities were confined in space and checked in growth. For half the year the city was the colour of a dirty cobweb, and the only refreshment the eye got was in the glimpses of sky overhead, the shop windows, and the hoardings. These latter marked the hunger for colour significantly. They wanted colour in their streets; they had tried for it by using coloured building materials, paint, creepers and flowers in window boxes; and they had gone to the cost of all these endeavours, not merely to gratify their cravings in the matter, but for the pleasure of the passer-by in the street. But these ventures were generally disconnected attempts and so were on too small a scale to make any distinct effect; and owing to the nature of the materials they soon sank back into the general dinginess of the surroundings. Why not plate their buildings with glazed terra-cotta, coloured glazed bricks, or tiles? He did not suggest that a man should veneer the vertical section of a street side that served him as his house, and let his neighbour on either side follow or not his novel start; because colour to be effective in such circumstances must be in broad masses. He would like to see whole streets treated in permanent colour, or a public building of such a frontage as should be sufficient to display a large mass of plain wall surface. Why should they fear to cover whole streets in London with coloured ware? Was there anything to lose? The streets at present were not beautiful, nor were they interesting: the modern ones had no single architectural quality; there was no general principle of design in them, no uniformity; a few good examples of design occurred in the general welter, but they made no effect on the whole, which mainly expressed private obstinacy tinctured with selfishness. No other surface wore so well. Stone perished rapidly; brick and terra-cotta got incurably fouled; marble required repolishing; granite endured, but unless it were polished it also got very filthy. But a good glazed tile, glazed brick or faience, should be as durable as a plate glass window, unaffected by the wildest acids that infested the atmosphere. They must be careful, however, not to mix up perishable with imperishable materials in their buildings. It was true that where the materials were all indestructible the kindly agency of Time could play no part, the building was never any better than when it left the contractor's hands, except for the history that gradually humanised its walls. But this view of the ameliorating power of Time belonged to their timid age—the age not of creation, but of selection—and was by no means a healthy one; they were afraid to risk anything, and why? Because they were so self-conscious, because they were so eaten up with their sense of responsibility. The love of colour and the power to apply it was characteristic of youth—of the youth of nations as well as individuals. Colour was the accompaniment of romance, of poetry, of enthusiasm, of abandon. Before the cold paralysis begotten of experience that they called wisdom, colour paled and faded away. It might be urged that the free use of glazed ware would add considerably to the cost of a building, but this was not necessarily so, as by the use of colour they could dispense with the ornamental features now common. Another virtue in the material besides its being imperishable and easily cleaned was that it was impervious to the elements. There was not the same necessity to load up their girders with thick masonry walls to keep out the weather. A thin glazed skin was sufficient for this purpose, and their walls would be drier and warmer as well. Why should their buildings affect a kind of prudishness in this article of colour? The result of this stony disdain, this proud scholarship in their streets, was that they could not live in them. Every evening thousands upon thousands escaped by every railway from these masterpieces of correct architecture and superfine sculpture to the shelter of the country, where the earth was green about them and the heaven blue above them. Could not they make their streets a little more kindly and comforting to those poor prisoners who could not escape?

The CHAIRMAN, in thanking the lecturer, said they must not think because a building was coloured it was therefore more becoming than one which was not. Colour could be ugly, stone and brick could be offensive; colour could be very offensive. He hoped the lecture would give an impetus to the study of the question in its relation to London architecture, and lead architects to further experiment on what was probably one of the most fruitful fields they could explore.

THE CONCRETE INSTITUTE.

THERE was a large attendance at the first of the four conferences arranged by the Concrete Institute at the Building Trades Exhibition on April 18, 19, 20, and 21.

INDUSTRIAL EDUCATION.

At the first conference the subject for discussion was "Training the Concreter." MR. E. FIANDER ETCHELLS said the Concrete Institute had hoped by this time to have had in hand a large scheme for the training of the concreter. Inquiries, however, showed that there was very little likelihood of there being employment for concreters after they were trained, in the present state of the industry. Therefore it would seem to be unwise to train a number of men for whom no employment could be found—they left that for the Government. At the moment there was something of a reversion to brick construction. That might not last and the two materials might settle down to some state of equilibrium. Personally, he believed concrete would hold its own. There was another feature which was important, for it was generally recognised that they wanted skilled workmen. The advantage of concrete was not that it wanted unskilled workmen, but that labour could become skilled quickly.

In the ensuing discussion, Mr. W. J. H. Leverton said it was important for the Concrete Institute to press on at once with the training scheme.

Mr. Ness said on every job they must have a man who thoroughly understood the work and who would see that the concrete was put in in accordance with the specification..

Mr. Oliff Lee suggested that so far as skilled labour was concerned what they wanted was a trained foreman and a trained supervising staff. They could not start training the workmen individually.

CONCRETE ROADS AND BRIDGES.

The second conference was on the subjects of (*a*) "Concrete Roads," and (*b*) "The Use of Reinforced Concrete in Highway Bridges."

DR. OSCAR FABER, O.B.E., in opening the discussion, said he was firmly convinced that the concrete road was the road of the future, but he was equally certain that concrete roads as they are being constructed to-day invited failure and discredit which would throw back their development for a very long period unless immediately checked.

The concrete road had principally three functions: (1) To distribute point loads over a sufficient area of surface to enable the soil to carry the load without indentation or subsidence; (2) To provide a hard-wearing surface; (3) To resist frost and other natural disintegrating influences.

As regarded the first of these, the sufficient distribution of the load, an experienced engineer could estimate with sufficient accuracy the bearing capacity of the soil and the bending moments which point loads would throw on to the slab. It was clear that surfaces which had been consolidated for many years and surfaces which overlay foundations of a high bearing capacity would require very much less distribution than surfaces of newly-made roads and surfaces overlying soft marshy foundations, especially where layers of peat existed under the road. He had seen such roads where a passing motor had caused the road to settle an inch or more under the wheels of a loaded lorry and to spring back to its former level after the lorry had passed—owing to the springiness of peat underlying the road. That was particularly common in Ireland and in some of the low-lying districts down the Thames, and in similar places, and it was clear that the bending moments produced in a concrete road constructed in such places might be ten or twenty times as great as those produced in roads with a non-yielding bottom. When for any case the bending moments had been estimated the quantity and kind of reinforcement had to be determined. In many cases which had come before him the quantity of reinforcement had been totally insufficient. It was clear from the elastic problems underlying the behaviour of a point load on a continuously supported slab that the deflection of the road would be one of double curvature, the portion immediately under the load being concave upwards and the portions at some distance from the load being concave downwards. It followed that a double layer of reinforcement—one near the upper surface, and one near the lower surface—was required if the fracture of the concrete was to be avoided, and in his opinion this was necessary on any roads other than those constructed on rock.

As regarded the second function, of providing a hard-wearing surface, the problem was in his view one for legislation. If our roads had got to be designed to carry six or seven ton wheel loads on steel tyres as might happen, for example, in the case of a boiler wagon on steel wheels, then the community had got to face an excessive cost for its roads, both initial expense and upkeep, and probably a steel surface was the only one which would resist this kind of treatment without being damaged. If, on the other hand, legislation were introduced prohibiting the use of steel tyres for, say, wheel loads of half-a-ton or over, which would still admit of light farm carts and machinery remaining as at present, then the cost of roads and their upkeep could be much reduced, and as rubber tyres, especially pneumatic tyres, reduced the tractive effort very considerably and had already been adopted by nearly all the great carrying firms, there could be little hardship in compelling the few who remained and who were responsible for damaging roads so greatly to convert to rubber wheels within a period of, say, three years. In his view this was one of the first steps required to solve the road problem on behalf of the community. It was a significant fact that in the United States where concrete roads had been such a tremendous success steel tyre vehicles were practically unknown.

In his view, ordinary concrete was quite unsuitable for the wearing surface of a road, and a special concrete having a crushing strength of 5,000 lbs. per sq. in. was necessary. With rough granite, sand, good grading, and a careful control of the quantity of water to give maximum strength and minimum porosity this was easily effected under technical supervision.

As regarded the resistance to frost and other natural disintegrating influences, absence of porosity was the most important factor. To achieve this, it was desirable that the stone selected should have the minimum porosity. Some limestones and sandstones would absorb 10 per cent. to 18 per cent. of their weight of water. Such stones were quite unsuitable for the wearing surface of a concrete road, and in his view no stone which would absorb more than three or four per cent. of its weight of water should be used.

Objections to concrete roads had been made on the score of inaccessibility of drains, pipes, mains, &c., but this was largely an exaggerated difficulty. It was easier to cut through, say, a 6 in. or 8 in. reinforced road than to cut through the ordinary street in a big city where frequently wood block paving might have 18 in. of concrete under it. The cutting of the reinforcement presented no difficulty with an oxy-acetylene flame, any individual rod being easily cut in about five seconds in exposure to the flame, and the lapping of fresh rods against the old rods left projecting enabled a secure and strong joint to be made afterwards. In cities, subways to accommodate drains, pipes, electric mains, &c., so as to obviate the continual opening up of roads would undoubtedly be a development in the near future, and would obviously pay for themselves in a very few years, and the question of proper ventilation to prevent explosion due to leakage of gas, &c., was a matter not beyond solution by modern engineering science.

In conclusion, he said he was firmly convinced that reinforced concrete roads, if properly designed and constructed, were the roads which would be used as a matter of course in twenty or thirty years, almost to the exclusion of other types.

Dealing with concrete bridges, Dr. Faber said where the circumstances allowed the arch type was to be preferred for reinforced concrete, because the concrete being especially strong in compression the function of the reinforcement in an arch bridge was confined to accidental bending stresses as far as the primary structure of the arch was concerned. In other words, in the case of an arch, the concrete without reinforcement carried the great bulk of the compression and the tension member was supplied by the earth; whereas, of course, in an ordinary girder a tension member approximately equal in strength to the compression member had to be supplied in addition. For this reason also the arch type of construction was often lighter and cheaper than any other, and frequently enabled bridges of the arch type to exceed in span what would be a limiting figure for bridges of the girder type when dealing with a relatively heavy material like reinforced concrete. For general work it might be accepted that the reinforced concrete bridge was cheaper than the unprotected steel bridge, besides having the very great advantage of eliminating painting and other upkeep expenses. Steel bridges protected with concrete contained roughly the same amount of concrete and centering as a reinforced concrete bridge and about three times the quantity of steel, and were always more expensive than reinforced concrete bridges for all spans. It was sometimes stated that the advantages of steel bridges over concrete lay chiefly in the greater ease of erection, but in the case of highway bridges over railways, canals, or roads the difficulties in connection with the erection of concrete bridges were generally quite easily overcome. Indeed, it was noteworthy that in some places where the difficulties might have been anticipated to be distinctly above the average concrete bridges had been successfully adopted. For example, the bridge carrying the road and tramways over King's Cross Station, where head-room was very cramped and, of course, no interference with the railway traffic could be tolerated, a reinforced concrete bridge was successfully constructed.

CONCRETE AND GOVERNMENT LOANS.

At the third meeting MR. G. C. WORKMAN dealt with the subject of "What life can be assigned to works of reinforced concrete for the purpose of Government Loans?" He had inquired at the Ministry of Health and was informed that in a general sense they were prepared to grant a period of 20 years for repayment of loans for reinforced concrete work, each case, however, to be judged on its own merits. This period concerned more particularly reservoirs, tanks, pipes, and the like. He was given to understand, however, that probably a much longer period would be allowed in the case of buildings. At the Ministry of Transport he was informed that for culverts and the like 30 years would be granted, for arch bridges 25 years, and for flat bridges 20 years. He had the impression that the new Ministries dealing with the question were not at all averse to reinforced concrete and fully recognised its strength and durability, but they appeared to be still labouring under the difficulty that it was impossible to find in the country any work older than about 20 years. They argued, therefore, that it would be unwise to grant the same period of loan for reinforced concrete as for the older forms of construction until it was actually possible to point out a certain number of structures which had lasted the full 30 years without showing undue signs of decay. The only arguments he could put forward against this preconceived idea was that they were living at a time in which economy was of paramount importance, and it was necessary, therefore, to encourage the use of reinforced concrete on account of the fact that in many cases it was by far the most economical material available. To deprive the public of its use by

penalising the material with a shorter period of loan than the older materials was not in accordance with the present-day economical requirements. It was obvious that many towns and municipalities could not see their way to use reinforced concrete until they felt sure they would be allowed the same period of loan as for the older forms of materials. It had been abundantly demonstrated that concrete increased considerably in strength with age and that steel bars embedded in good concrete did not rust.

In the United States were a number of reinforced concrete structures more than 20 years old, and he was informed that there was no discrimination against the material as far as the question of duration or repayment of loan was concerned. In France its use was encouraged in every possible way; but in this country city and municipal engineers, knowing that any scheme they might put forward in reinforced concrete might be liable to a short period of loan, were discouraged from using the material from the beginning, so that even if they felt convinced that the proposed work would be much cheaper in reinforced concrete than, for instance, mass concrete, their natural inclination was to put aside the former.

CONCRETE BUILDING.

Mr. E. S. Andrews presided at the fourth and final meeting, when the subjects for discussion were (*a*) Concrete Block Building; (*b*) Reinforced Floors; and (*c*) The Use of Pre-cast Work in Building Structures.

The Chairman said that during the past few years concrete had had what might be called the opportunity of its life, and they might say it had responded very well to the opportunity. At the same time some of them who felt keenly in regard to the position they considered concrete should hold were apt to be disappointed at the fact that there was still a large number of people who regarded concrete as an absolutely new form of construction, and who looked upon anyone embarking upon an enterprise involving concrete as doing something of a highly experimental and problematic nature. He would like to see these bogies set aside once and for all. Tremendous progress had been made with concrete block construction, and about two years ago he thought concrete had come into public recognition, but when war conditions ceased all the old bogies were again brought out and they had still to bring the facts before the public. Many people imagined that concrete blocks could only be used to fill up the spaces between pillars, but good concrete construction was as good as brick-work, and in most respects considerably better, and certainly it was stronger. What, however, was required, in his opinion, was a standard specification for concrete blocks, and the Concrete Institute was endeavouring to work out something of the kind. It was up to the manufacturers of blocks and all interested in this kind of construction to see that they jealously maintained a high standard of production. If they could get a good rigid specification that people could order to and have tested, then they would have gone a long way. Such a specification should distinguish between the two classes of concrete blocks. Such blocks for building purposes were of two main classes, to fill two different purposes. First, there was the hard block, the function of which was principally to keep out the weather. If, however, they built a house entirely of water-tight blocks they were liable to the disadvantage of condensation. The blocks were so hard and strong that water deposited on the inside, and people thought the house was damp, whereas really it was too dry. This could be overcome by using a softer, permeable concrete block for the inside.

It was necessary that there should be standard specifications for these two classes of blocks. As to the manufacture of blocks, here they had to effect a compromise. No one, he thought, would deny that the best block was made by the wet process, where the block was cast with sufficient water in the mould and allowed to set. The objection to the wet process was that either they had to have a tremendous number of moulds, or otherwise it took a considerable time to make a large number of blocks. On the other hand there was the semi-dry method. In this case the concrete was not made so wet. It was mixed in the machine and taken out almost immediately to another place for curing, so that the machine was available for making further blocks. There was a danger with this process that too little water might be allowed, with the result that the concrete never hardened properly. He believed he was right in saying that blocks were made with great success by this method so long as sufficient water was allowed for the hydration of the concrete, and, of course, the method permitted of a quick output and ensured a good shape of blocks.

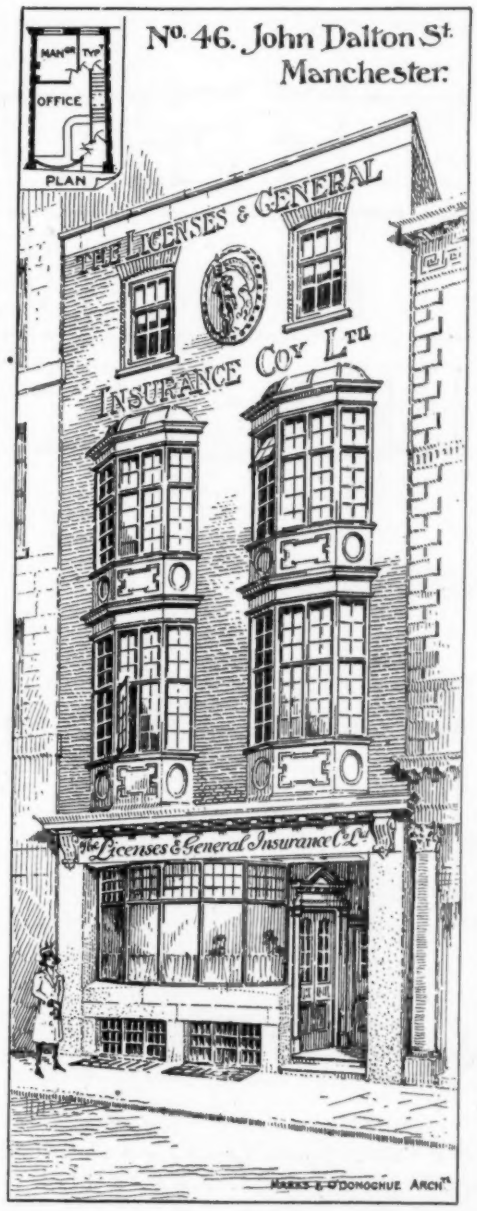
Major Smith said in his opinion the concrete block building was the solution for economic permanent construction, provided that the design of the blocks was correct and the manufacture and erection right. He had carried out a number of tests of breeze blocks in comparison with bricks, and provided that when the concrete was made with clinker its strength was equal to that of stock bricks, and if the breeze blocks were bonded properly to the outside wall they would get all the strength they required even if the inner wall gave no strength at all. He agreed with Mr. Andrews regarding the necessity for having sufficient water in the concrete blocks at the time of manufacture.

Mr. Shingleton pointed out that the prejudice against concrete blocks was not in regard to their strength but in respect of their appearance. Also, builders and contractors found they could not use them so readily unless for type-designed houses where there was repetition of the same blocks. Where they had houses designed by architects they would have to go to great expense in making special blocks to meet the requirements.

Mr. T. J. Clark said at Liverpool they had a method of colouring the concrete blocks, and he suggested that it would open the eyes of some people to see what had been done in that city.

Mr. Andrews, replying on the points raised, said it was difficult to answer a general question as to the strength of breeze blocks. It was not necessary for the floor load to be carried on an inside breeze wall, although he had little doubt that in the case of a small house such a wall would carry the load if the blocks were well made. The whole crux of the question lay in the blocks being well made. The Concrete Institute did not think the specification of the Ministry of Health met the case altogether, and he would not be satisfied with any specification which did not give minimum strengths for both types of blocks. He had no definite figures about lime concrete blocks, but he saw no reason why they should not be used. He doubted, however, whether it would be commercially worth while. Lime plaster would help, but would not entirely eradicate the difficulty of moisture. When they talked of the appearance of a house they got into the subject of taste, and if people wanted block houses they would have them. Personally he preferred a house which was roughcast. Concrete blocks were used largely for internal partitions and were successful, but he would not say they were sound-proof.

Passing to the remaining subjects, the Chairman said there was not much he need say about reinforced floors, for they had really asserted their position, and there was no doubt it was the very best form of construction and was very largely used. There were many proprietary methods of construction which had certain distinctive features and which claimed certain special advantages. In these things one had to judge their efficiency viewed with regard to expense. His own feeling was for an ordinary reinforced concrete floor reinforced with ordinary mild steel. In some conditions it was desirable to have a self-centering floor, as it facilitated the work of construction. If these special floors were not considerably more expensive he had no objection to them. There was the question of steel for the reinforcement, and his opinion was that mild steel was both effective and economical. If special steels were to be used, he was in favour of the steel which was strong because of its chemical contents rather than a steel which was strengthened by working.



Branch Office of the Licenses and General Insurance Co., Ltd., Manchester.

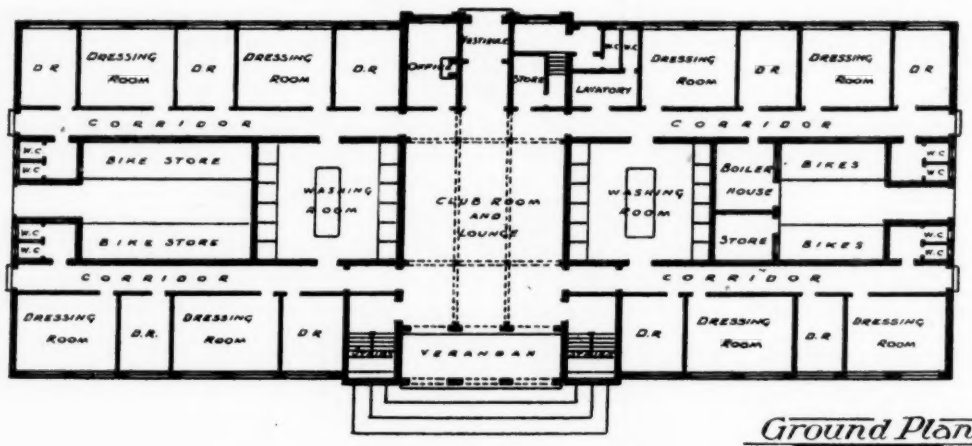
Messrs. Marks & O'Donoghue, Architects.

[These offices have been erected at No. 46, John Dalton-street, Manchester, for the Licenses & General Insurance Co., Ltd. The architects are Messrs. Marks & O'Donoghue, of 3, Staple Inn, W.C.1, and the quantity surveyor, Mr. Frederic Saunders, F.S.I., of 3, Staple Inn, W.C.1. The general contractors were Messrs. P. & W. Anderson, of London, and among the sub-contractors were the following:—Fascia, Brilliant Sign Co., London; granite work, Art Pavements Co.; casements and bays, Henry Hope & Sons; pavement lights and Bostwick gates, Haywards, Ltd.]

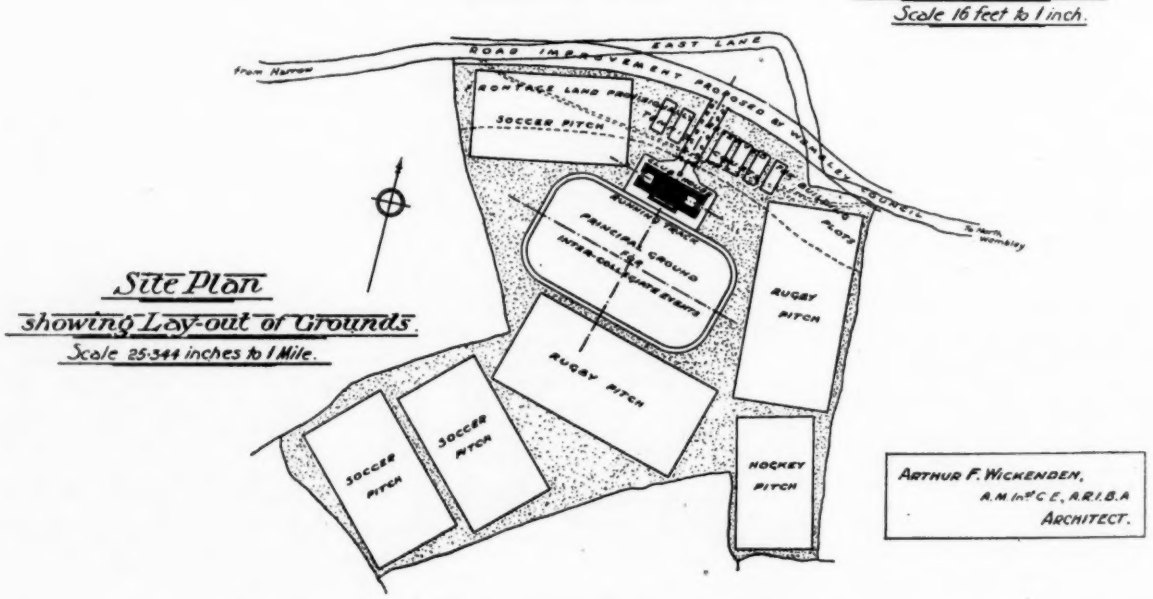
Another 140 Houses for Bristol.

A scheme for building about 140 houses at Redland, Bristol, by private enterprise, was outlined at a recent meeting of the Bristol Sanitary Authority, when plans submitted by Messrs. J. P. Sturge & Sons, on behalf of the trustees of the Redland Park Chapel estate, for building the houses on an area comprising Jellicoe and Liege-roads, with extensions to Canowie and Greendale-roads, were approved. The houses, which will be of a middle-class type, are being built in connection with the development of the chapel estate.

The Club House from the Grounds.



Ground Plan.
Scale 16 feet to 1 inch.



Site Plan
showing Lay-out of Grounds.
Scale 25·344 inches to 1 Mile.

ARTHUR F. WICKENDEN,
A.M.Inst.C.E., A.R.I.B.A.
ARCHITECT.

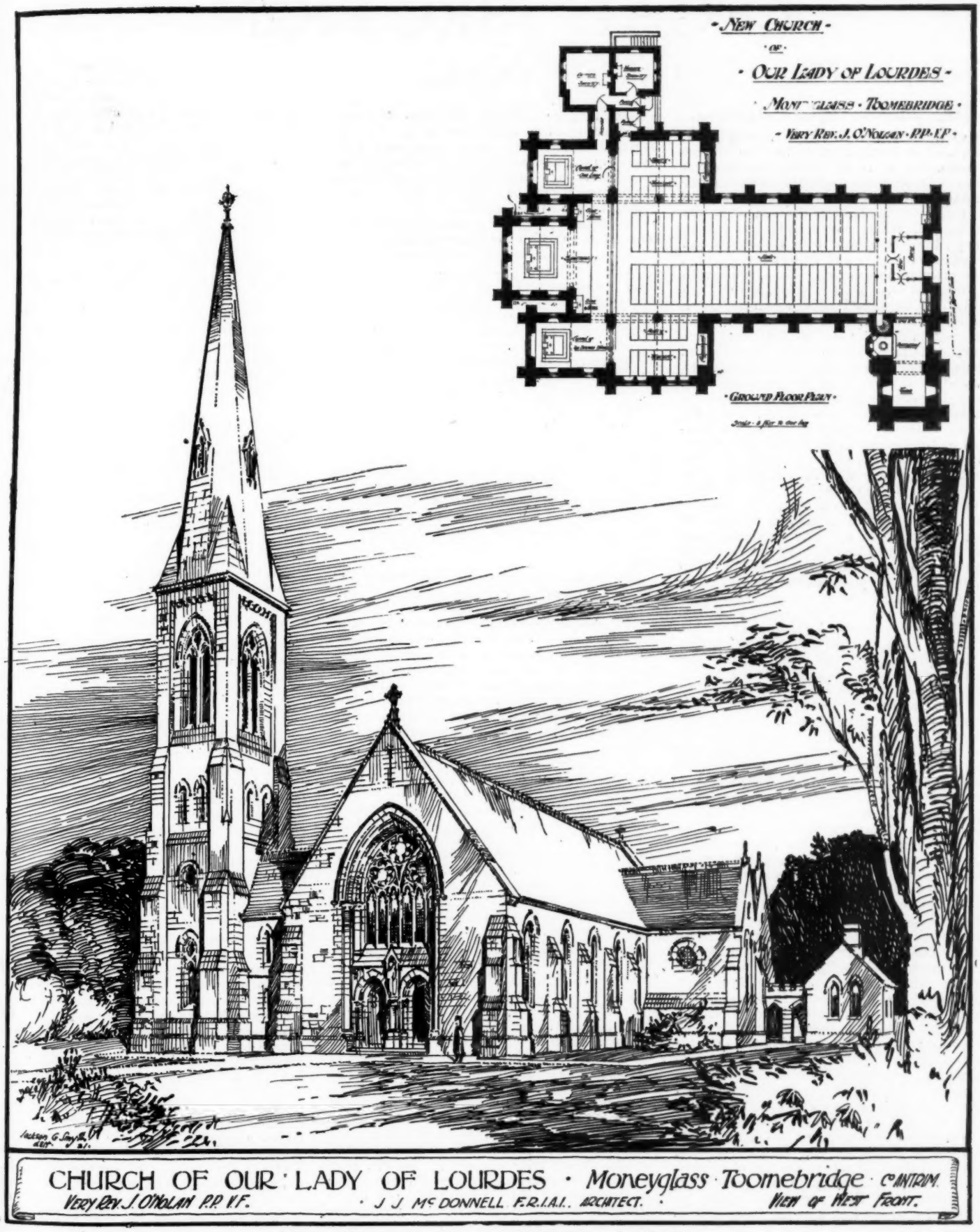
The Imperial College Sports Ground and Club House, Wembley.
MR. ARTHUR F. WICKENDEN, A.R.I.B.A., A.M.Inst.C.E., Architect.

The war memorial of the Imperial College of Science and Technology is to take the form of an athletic sports ground, and for this purpose about 22 acres of land have been acquired at Wembley, Middlesex. The grounds are now in occupation, and plans have been prepared for the general lay-out of the playing fields and for the erection of a club-house and pavilion.

The scheme adopted by the Sports Committee for the development of the athletic ground provides for a principal sports ground surrounded by a prepared running track. This ground will be utilised by each of the constituent colleges for big events, and will also be available for inter-collegiate contests. Separate Rugby and Association football pitches are provided for the respective clubs of the Royal College of Science, Royal School of Mines, and the City and Guilds Engineering College. Hockey grounds will also be available, and certain portions of the fields are to be reserved for cricket and tennis. The club-house and pavilion, which will be situated immediately facing the principal ground, have been planned on generous lines, which are necessitated by the large number of men to be accommodated when all the pitches are in use.

The general plan consists of four separate wings containing dressing-rooms, &c., each with a corridor communicating with the washing-rooms and bathrooms, and leading to the central club-room and lounge. Such an arrangement will enable the erection of the building to be carried out in sections as the necessary funds are raised. The first-floor plan will comprise two enclosed pavilions for spectators, a covered balcony, and a gallery lounge at one end of the club-room. On this floor provision is also made for living-quarters for the resident ground superintendent. In the interest of economy the elevations have been designed in as simple a manner as possible. A feature has been made of the central portion of the façade to the playing fields.

The plans for the development of the grounds and the erection of the buildings have been prepared by Mr. Arthur F. Wickenden, A.R.I.B.A., A.M.Inst.C.E. Tenders have been invited for the erection of the first portion of the club-house, and it is expected that the work will be commenced at an early date.



CHURCH OF OUR LADY OF LOURDES · Moneyglass Toomebridge · Co ANTRIM.
VERY REV. J. O'NOLAN P.P. V.F. · J. J. Mc DONNELL F.R.I.A.I., ARCHITECT. · VIEW OF WEST FRONT.

MESSRS. MCDONNELL, LAMONT & MCDONNELL, Architects.

[This church is in course of erection for the Very Rev. John O'Nolan, P.P., V.F. The plan consists of nave and transepts, with sanctuary and side chapels. The total length of the interior of the church and sanctuary is 130 ft., the width of the nave is 34 ft., and the width across the transepts is 72 ft. 6 ins. The sanctuary is the full width of the nave for half its length, and the eastern end 20 ft. square. The height of the nave from the floor to the apex of the roof is 50 ft., and of the sanctuary 39 ft. The north and south chapels are each 22 ft. long and 14 ft. wide, and 20 ft. high from the floor to the apex of the roof. The tower is 10 ft. square internally, and with the spire will reach a height of 156 ft. to the top of the cross. The exterior elevations are executed in local blue stone, with limestone dressings. The interior joinery and roofs will be in oak, and the floor in wood blocks, mosaic and terrazzo. The heating will be by the low-pressure hot-water system. The contractors for the work are Messrs. Robert Gilchrist & Son, Ltd., of Belfast and Glasgow. The limestone is being supplied from the Ballyduff Quarries, Tullamore, Queen's Co., and the architects are Messrs. McDonnell, Lamont & McDonnell, of 27, Chichester-street, Belfast.]

LEGAL SECTION.

NOTES ON CURRENT CASES.

Covenants in Leases: Requisitioned Premises.

The case Curling *v.* Matthey, (*Weekly Notes*, April 1,) has been carried to the House of Lords, and it is of interest as, although it related to premises requisitioned during the war, and we trust occasion for such occupation may not arise again, the decision does not turn on technicalities concerning the powers to requisition but deals with the rights and obligations of lessors and lessees under leases.

The premises in question were a house with some fourteen acres of land, which, in 1898, had been let on a 21 years' lease of which the appellants were the executors of the assignee. The lease contained covenants in the usual form requiring the lessee to repair the premises and to deliver them up in repair and to insure against fire, and in the event of the premises being damaged by fire to expend the insurance money in reinstating them. In January, 1918, the military authority acting under powers conferred by the Defence of the Realm Regulations had taken possession of the premises and continued in occupation after the expiration of the term granted by the lease on March 25, 1919. In the previous February, whilst the premises were occupied by the military authority, the house was destroyed by fire. Application had been made to the War Office by the lessees for compensation as the lessor was calling upon them to rebuild the premises, but the War Office denied any liability and in this action (to which the War Office was not a party) the lessor was suing the lessees under the covenants in the lease.

The rent had been paid by the lessees all but the last quarter, and the claim was for this quarter's rent and for damages for the breach of the covenants to deliver up the premises in good repair and the insurance covenant. The defendants raised three defences: (1) That they had been evicted by title paramount and the lease was thereby determined; (2) that the purpose for which the lease had been granted had been frustrated; and (3) that they had been prevented from performing the covenants by the lawful acts of the military authorities.

In the court of first instance the defence had been held to fail so far as the rent, but to succeed on the covenants (see *The Builder*, January 28, 1921), but in the Court of Appeal all the defences had been held to fail and the claim of the lessor to succeed (see *The Builder*, May 25, 1921).

The House of Lords has now affirmed the judgment of the Court of Appeal, and the case raises questions similar to those we referred to during the war—the obligations of parties to a contract where either something intervenes which interferes with the performance of the contract and over which they have no control, or damage is done to the property by some agency over which they have no control—and the question to be decided is which of the two entirely innocent parties has to pay the damages.

At present only one judgment delivered in the House of Lords is reported in full (*The Times*, March 22), and we may refer to the case later on, but we can denote one or two of the points dealt with in that judgment. In the first place, it was held that this was not a case of eviction by title paramount at all, and it was pointed out that eviction by title paramount means an eviction due to the fact that the lessor had no title to grant the term owing to there being some title paramount to his own, and also that eviction whether lawful or unlawful is no defence unless, of course, the lessor himself was in any way party to it. When we were considering damage to house property by the enemy in our issue for October 1, 1915, we referred to the rule that where a party by his contract creates an absolute duty he is bound to perform it, and to the exceptions engrafted on this rule, and we referred to the cases Paradine *v.* Jane (Aleyn 26) and Bailey *v.* De Crespigny (L.R. 4, Q.B. 180), and on these cases expressed the opinion that on absolute covenants in leases the lessee would be held liable for that class of damage. These cases have now been considered in the House of Lords, and, after stating the general conclusions of the House on the facts of this case, it may be useful to refer to certain observations on these cases.

The House appears to have held, there being no eviction to which the lessor was in any way a party, that the lessees, being bound by the lease to do certain definite acts, were not excused from performance of these acts by the circumstances which had occurred outside their control which had prevented compliance; acts done by an assignee or a sub-tenant might equally have been outside their control, and it made no difference that in one case the occupation was permitted whilst in the other it was not permitted. The House on this point followed Harding *v.* Metropolitan Railway Company (L.R. 7 Ch. 154), a case in which a railway company had acquired under their compulsory powers certain leasehold premises and had been held by the Court bound to give an undertaking to indemnify the lessee against liability on the covenants of the lease, as it established the proposition that the lessee remains liable under the covenants in the lease even when he has been deprived of the term by the exercise of legal powers.

It had also been argued that performance had become impossible, but the House held this contention failed, and that a terminable occupation by military authority for an uncertain time for which compensation might prove recoverable from the military authority (see Attorney-General *v.* de Keyser, 1920, A.C. 508, *The Builder*, May 28, 1920) constituted no answer to the obligations of the repairing covenants, and thus it was unnecessary to consider the covenant to insure or the application of the insurance money.

The litigation in this case has arisen from the action of the authorities who had acquired these premises and then denied any liability in connection with their destruction and the judgment contained some comment on this attitude of the authorities, but the War Office was not a party to these proceedings, and the reason for this denial of liability is unknown, but as between the two parties to this action it is interesting to try to see how this decision bears on previous decisions on such questions under contracts.

As regards the latter of the two points—the impossibility of performance—it may be observed from the judgment at present reported that impossibility was held not to have been proved, for the order, unlike that in the case of Metropolitan Water Board *v.* Dick Kerr (see *The Builder*, March 1, 1918), did not make performance illegal. There may be more difficulty in saying why this case did not fall under the rule that where the event which happens is of such a character that it cannot reasonably be supposed to have been within the contemplation of the contracting parties when the contract was made they will not be held bound by general words, which, though wide enough to include, were not used with reference to the contingency which has happened. Bailey *v.* De Crespigny is one of the main authorities on which this proposition has been based, and, therefore, it may be instructive to note the observations on the judgment now made by the House of Lords in that case.

In that case a lessor had demised property, but had covenanted for himself and assigns that a certain paddock fronting the demised premises should not be built upon. A railway company under compulsory powers had acquired the paddock and built upon it, and it was held the lessee could not recover damages for breach of covenant, and in the judgment the above proposition was laid down. The House of Lords has now distinguished this case, pointing out that it was also held that the word "assigns" gave a definite limitation to the covenant, for the lessor had covenanted against a liability he was able to foresee and guard against, but the legislature by compelling him to part with his land had created a new kind of assign whom the lessor could not bind and a contingency had arisen not foreseen by the parties.

It must be confessed that, as at present reported, there is some difficulty in drawing a definite principle from the case or in reconciling all the decisions. When this lease was granted in 1898 an occupation by the military authorities certainly cannot have been within the contemplation of the parties, and, although any act they did might be as uncontrollable as an act done by an assignee or subtenant, it is difficult to see how the House held an occupation under a contract and an unpermitted occupation made no difference in the liability in this respect, for where an occupation, say, of a subtenant, is permitted the liabilities can be restricted by the contract, whereas in the case of unpermitted occupation there can be no contract.

All that can be said at present is that the House appears to have held that as eviction would not release the lessee from his covenants unless the lessor had been party to it, so this occupation by the military under a liability to pay compensation according to the law as laid down in de Keyser's case, closely analogous to compulsory acquisition by a railway company under compulsory powers, did not relieve the lessee from the covenants to pay rent and deliver up the premises in repair. We shall recur to this case when all the judgments are fully reported in the Law Reports.

Contract for Sale of Machinery.

A short summary of the recent case, Underwood, Ltd., *v.* Burgh Castle Brick and Cement Syndicate (1922, 1 K.B. 343), may be interesting to some of our readers.

The plaintiffs had agreed to sell to the defendants a horizontal tandem condensing engine to be delivered free on rail in London. At the time the contract was made the engine was on certain premises in Millwall as a trade fixture. It weighed thirty tons and was bolted to a concrete flooring in which it had become embedded by its own weight, and before it could be delivered on rail it had to be separated from the concrete flooring and dismantled. To free the engine from the bed was the work of two days, and the dismantling required another two weeks' work and involved an expense of some £50, after which, as was stated in one of the judgments, a further expenditure of some £50 might be required to place it on rail. The defendants had given instructions that the engine was to be sent to Yarmouth, and while the main body of the engine was being loaded on to the railway truck the bedplate was accidentally broken, and the defendants after inspection had refused to accept it. This raised the point as to whether the property in the engine had or had not passed to the defendants at the time of the accident.

Section 18 of the Sale of Goods Act, 1893, lays down certain rules to be applied *unless a different intention appears* in the contract, and Rule 1 provides: "Where there is an unconditional contract for the sale of specific goods, in a deliverable state, the property in the goods passes to the buyer when the contract is made and it is immaterial whether the time of payment or the time of delivery or both be postponed." Rule 2 provides: "Where there is a contract for the sale of specific goods and the seller is bound to do something to the goods for the purpose of putting them into a deliverable state 'the property does not pass until such thing be done and the buyer has notice thereof' . . . "

In the Court of Appeal the judgment of the court below was affirmed, holding that the property in this engine had not passed to the defendants. All three Lords Justices were agreed that if the case had to be decided under the above Rules in the Sale of Goods Act this

engine was not in "a deliverable state" under the above rules when it was *in situ* when so much trouble and expense had to be incurred by the vendors to put it on rail, but two of the Lords Justices also held that in this contract the Rules did not apply, for having regard to the terms and conditions of sale "a different intention" did appear, viz., that the property in the engine was not to pass until it was safely placed on rail.

Restrictive Covenants: Mandatory Injunctions.

The recent case, Sharp *v.* Harrison (*Weekly Notes*, April 1), may be referred to, but should not encourage persons to break restrictive covenants for it may be of the nature of the exception to prove the rule.

The plaintiff and the defendant occupied adjoining houses separated one from the other by a narrow passage which belonged to the plaintiff. The defendant had purchased her house from the plaintiff, but in the conveyance there was a restrictive covenant that no addition or external alteration should be made without the plaintiff's consent. The defendant, in converting her house into flats, had opened a frosted window, 6 ft. by 4 ft., overlooking the passage and immediately opposite the lavatory window of the plaintiff's house, without consent. This window was necessary to light a bedroom in the converted flat. The plaintiff brought the action for a mandatory injunction and damages, but at the trial failed to prove that his house would be depreciated in value. At the trial the defendant offered to give any undertakings to prevent the acquisition of an easement, to keep the window frosted, and if she could obtain her tenant's consent to fasten up the lower part of the window and only to have an internal fanlight. The flat had been let to a tenant five months after the issue of the writ in this action.

It was contended that the Court, where there was a flagrant breach of a negative covenant after warning (for in this case the defendant had been repeatedly warned), had no discretion to refuse a mandatory injunction. The defendant's counsel appears to have admitted that this was the general rule even if the plaintiff failed to prove damage, but contended that where the breach was trivial the court could exercise a discretion.

The court held that, as the breach of covenant had caused no substantial damage, and with the undertakings given no damage of any sort or kind, whilst a mandatory injunction would inflict damage on the defendant out of all proportion to the relief claimed, a mandatory injunction ought to be refused. The defendant had brought £10 into court with a denial of liability, and the court awarded £2 for the breach and gave the plaintiff the costs of the action.

It may be noted that some point was made of the fact that as the flat had been let for five years and the tenant was not a party to the action the mandatory injunction if granted would be inoperative for that period.

Increase of Rent: Notice to Quit.

We have often called attention to the fact that where a tenancy is subsisting by virtue of any agreement an increase of rent cannot be demanded until notice to determine the tenancy has been given. This, of course, excludes the cases of "statutory tenancies," where the tenant is merely holding under the provisions of the Rent Act. The opinion we expressed on this point was questioned in our Correspondence column because of a certain divergence in the judgments delivered in the county courts, but its accuracy has been established by several decisions in the High Court and by divisional courts, and has now been confirmed by the Court of Appeal in the recent case Newell *v.* Crayford Cottage Society, Ltd. (*Weekly Notes*, February 25).

In that case the plaintiff was the weekly tenant of a cottage at a rent of 9s. 6d. a week. On August 7, 1920, notice had been served upon him by the defendants of an increase of rent under the Act, but no notice to quit had been given to him. This notice, under section 3 subsection (2), is a four weeks' notice, and on September 6 the plaintiff commenced paying the rent with the increase demanded, and he continued to do so until November 26, 1921, thirty-six weeks in all. It was then suggested to him that the increase was not justified, no notice to quit having been given, and he brought this action to recover the increase in rent paid by him over the above period. The county court judge had given judgment for the plaintiff, that judgment was affirmed by the divisional court, and on appeal to the Court of Appeal the appeal was dismissed in that Court without counsel for the plaintiff being called upon to argue in support of the judgment appealed from.

The case turns upon section 3 sub-section (1) of the Act of 1920: "Nothing in this Act shall be taken to authorise any increase of rent except in respect of a period during which but for this Act the landlord would be entitled to obtain possession. . . ." The Court of Appeal, referring to the case Hill *v* Hasler (1921, *Weekly Notes*, 276; see *The Builder*, August 19, 1921), agreed with the opinion expressed in the judgments in that case, namely, that the increase could only be demanded in respect of a period during which the landlord had not only the legal right to possession, but where he had also taken the necessary steps to enforce that right to obtain possession. Here the landlord was not entitled to possession during the continuance of the weekly tenancy, and he had not taken the necessary steps to obtain possession by giving the tenant notice to quit. The Court of Appeal also approved the decision delivered on this point in the case Peizer *v.* Federman, noted in our issue for December 16 last.

Rent Restriction: Converted Flats.

The case Sinclair *v.* Powell, which we briefly noted in our issue of January 27 last, when the decision was given by the Court of Appeal, is now fully reported (1922, 1 K.B. 393), and, as the case is of great importance to those converting houses into flats, we propose to refer to it again.

The defendant was the owner of a house in Upper Addison gardens which was let as an undivided house on January 9, 1914, at an annual rent of £65 and assessed to the rates at £65 gross and £55 rateable value. In 1916, this house was converted into three separate self-contained flats, and, in 1917, the top flat was let to the plaintiff at a rent of £50 inclusive of rates. This top flat was separately assessed at £33 gross and £27 rateable value.

At the time the house was converted into flats it was outside the limit of the Rent Restriction Act, 1915, then the Act in force. The Act of 1920 came into force July 2, 1920, and on October 7 of that year the defendant gave the plaintiff notice that it was intended to increase the rent of the flat by a sum permitted by that Act. The plaintiff then applied to the Court for an apportionment under section 12, subsection (3), and the County Court Judge, on the authority of the case Woodward *v.* Samuels (see *The Builder*, February 27, 1920), took the standard rent as that of the house undivided on August 3, 1914, and apportioned that to the flat. The Divisional Court set this aside, holding that the case of Woodford *v.* Samuels was distinguishable from the present case because in the former instance the house when converted was within the Rent Restriction Act (then in force), whereas, in this case the house had been converted before the Rent Restriction Act applied to it, and, therefore, the standard rent was that at which the flat was first let after conversion (see *The Builder*, June 10, 1920).

The judgments delivered in the Court of Appeal were complicated by the fact that an increase of rent after conversion was also being claimed in this case, but we are only addressing ourselves to this question of conversion. It is important to observe that two of the Lord Justices held that the conversion had caused such an alteration in the house that it had lost its identity, on the same principle as was applied in the case Phillipps *v.* Barnett (see *The Builder*, June 10, 1920), where dwelling houses had been converted into a factory, and thus each flat had become a separate dwelling house with its individual standard rent, which was that at which it was first let.

Lord Justice Scrutton, however, based his judgment on the ground adopted by the Divisional Court that the house, when converted, was not subject to any rent restriction.

It may be noted that as the house was converted in 1916 or 1917 section 12, subsection (9), of the Rent Act, 1920, did not apply to this case. That subsection exempts from the operation of the Act a dwelling-house which has since April 2, 1919, or at that date was being *bona-fide* reconstructed by way of conversion into two or more separate and self-contained flats, and the effect of the decision is really to apply this section to the case, for the Court was careful to point out that the conversion was a question of degree, and the alteration of the building must be substantial and not a mere colourable alteration.

In the judgment of Lord Justice Bankes he referred to the case of Woodward *v.* Samuels as having turned upon the fact that the Court had found that the conversion had not been such as to cause the house to lose its identity. This question would now seem to be one of fact to be decided on the principles laid down that the alterations must be such as to alter the identity of the house, and, in dealing with this question of fact, no doubt the tribunals will consider the words of the subsection now in force as giving some indication as to the nature of the necessary reconstruction by way of conversion, *i.e.*, it must be *bona-fide* and the flats must be separate and self-contained.

Where the original house as a whole was subject to rent restriction and the alteration is such as not to alter its identity, then the case of Woodward *v.* Samuels will still hold good, and the original standard rent will be that to be apportioned.

The judgments deal with matters of extreme complication, but we have endeavoured to state the general effect of the decision. This case was made more difficult by the conversion having been made before the first extension of the Rent Act, 1915, and being completed before the Act of 1920 came into operation. Presumably very few of the small houses only under the Act of 1915 are capable of being converted into separate and self-contained flats, and now that the Act of 1920 is in force section 12 subsection (9) refers back to April 2, 1919, the date of the extension of the Acts to larger houses.

St. Bartholomew the Great.

In a letter published in *The Times* recently the rector of St. Bartholomew the Great, West Smithfield, asked for assistance in raising the funds needed to restore to the church the only unrestored part known to exist—six bays of the cloister, including the great entrance arch to the chapter house. The six bays lie beneath seven feet of earth, which at present, as it has done for many years, forms the floor of a stable. The original east cloister walk of the ancient priory church, which Rahere founded in 1123, apparently comprised nine bays, of which three were recovered from the stable keepers and restored in 1905.

The six hidden bays are known to contain, in addition to the doorway to the chapter house (which itself is in the basement of a warehouse), the arched entrance to the dormitory of the monastery, the east side of which was uncovered in the adjoining premises in 1903; and there is reason to believe that the entrance to the slype (or passage between the south transept and the chapter house) still exists below the present ground level.

WHAT WE MEAN BY TOWN PLANNING.

THE above was the title of an address given by Professor P. Abercrombie at a meeting held at the Building Trades Exhibition, Olympia, on Monday night. The chair was taken by Sir Aston Webb.

PROFESSOR ABERCROMBIE said that before considering town-planning it was worth saying something on the need of studying the towns themselves, and the preliminary study of towns was known generally as civic-survey work—that was, surveying their town to obtain a greater knowledge of what it contained. A town was too complicated to be studied by simply walking round it, and by a civic survey they were enabled to collect together all the information they could possibly get relating to the town, and presenting on a whole series of maps and diagrams what the town stood for. For the adequate survey of a town they needed to have a plan showing the whole of the housing conditions, the state of the houses in poor condition, and those capable of repair, and those which should be demolished. Then there would be a survey of the roads and the traffic upon them; a survey of the open spaces and the use made of them; and an industrial survey. It was an interesting fact that in a town with which he was concerned recently the manufacturers themselves had no idea whatever of the grouping and allocation of the industries. They knew that certain trades were to be found in a certain valley, but had only a hazy idea as to another type of trade which had grouped itself in another district. A survey of that sort had great practical applications because it indicated that certain districts were definitely trade districts; and although there might be houses there it showed the medical officer of health that it would be absurd to carry out any new housing schemes in areas which were manufacturing areas. Perhaps the most important effect of the civic survey was to show how different aspects of a town were bound up together. Having prepared such a survey they were in a position to understand what had been called the natural grouping of the town. They could see why these factories tended to group themselves together and where the houses of different classes were to be found, and where the open spaces were, and so forth; they would note the tendency of the direction of these shopping centres, of the office quarters. One might say quite frankly that satisfactory town-planning must be built upon the natural tendency to group which was found in the town itself. It was true that in some cases mistakes had to be corrected, but it was the right way in which the town should grow—it was natural evolution. It was important to recognise this because if they prepared an artificial scheme for the town in place of its natural growth they must be sure they were preparing a reasonable form of growth. If the prepared scheme was one which did not satisfy the natural requirements of the town they would find they would have done far more harm than good. In the past the dominating factor had been self interest in the grouping of trades and the placing of houses, but that self interest, whilst it had damaging effects, in some directions, was very sound in that it tended towards the prosperity of the town, and if they interfered with that natural self-grouping arrangement they must be certain that they did so only after very careful scientific study. Then they had to consider the relation of the town with neighbouring towns and the country at large. He was not referring to London, which had a special problem of its own; but when they were dealing with smaller towns, and particularly with manufacturing towns in the Midlands and the North, one found the enormous importance one town had to another. In other words, they had to study the regional development of the district. It was a subject which so far had not received much attention, but was exceedingly important. It was difficult to say what was the best means of preparing a regional plan, but in South Wales it was found that it would be quite impossible for any single community to do so. The only way would seem to be for a joint grouping of local authorities to provide a regional plan together with their own local schemes. Having dealt with the civic survey and the regional survey they were in a position to make a scheme which might meet the needs of the town. Dealing with this part of the subject, Professor Abercrombie pointed out that, so far, there was no legal power to remodel existing towns, but the Town-Planning Act did possess powers regarding both compensation and betterment, and if these classes were applied to the centre of the town it might enable slum areas to be cleared and used for industrial purposes to the financial advantage of the town. In the meantime, they had compulsory powers for suburban town-planning under which every local authority with a population of 20,000 in its area must plan, and there was a three years limit within which the scheme had to be prepared. So there was a good deal of suburban planning to be done within the next three years, and it was well that all technical people, as well as laymen, should give attention to this important matter. The lines upon which their towns were going to grow would, to a large extent, be determined within the next few years. The first sign of the revival of the growth of their towns would be the layout of building estates and the building of small houses. They had in the past few years seen the lay-out of these estates under the artificial scheme of Government support and scrutiny. Further schemes of development might be in the hands of the speculative builder, or some other agency, and they would not be under Government control. What one hoped was that whoever lay out these future estates would have some regard to the general good of the community and would not be actuated entirely by selfish motives. There were a number of excellent examples of laid out estates. The road planning, the intersection of roads, and all the details so important in producing a satisfactory effect in a suburb, could be seen in actuality throughout the country. Whatever one might think of the housing scheme of the Government one did feel that it had given practical examples of good suburban planning throughout the length and breadth of the land; whereas, previously, they had nothing but illustrations in books. There was no excuse, therefore, if they allowed the country to drift back again into the soulless type of development of the past. They had compulsory powers which would require a great deal of planning. and one hoped that with a more enlightened development of interest in town-planning they would get powers to deal with the centres of towns as well as the suburbs in the comparatively near future. But one felt that they had still a dearth of experts fully equipped to deal with these important questions, and more education was required not only by the public, but by engineers and surveyors. They wanted a great many more expert town planners and a great many amateurs to interest themselves in the question. They could not devote time to anything more necessary for and remunerative to the community than that of complete and adequate town-planning.

Sir Aston Webb said the subject of town-planning ought to interest not only architects but everyone who lived in a town. They might prepare the best of plans for any town, but it was quite certain that if the people did not care about it that the plan would never be carried out. What Professor Abercrombie said about the civic survey was one way of interesting people in town-planning. The London Society had prepared a wonderful civic survey of London, taking many different aspects of London on different sheets. He only wished they had carried it a little farther and published it for the general good. In his opinion, it was a most excellent example of what every town should do before beginning to lay down any scheme for the improvement of the town. London was a case apart. It was so vast that it was extremely difficult; but they were trying to interest Londoners, and by degrees he thought they were becoming a little interested. Camden Hill, where he lived, was one of the earliest pieces of town-planning in London. The architect was an excellent draughtsman and laid out his plan with a large number of open spaces. The result was that it was a pleasant place to live in, and the value of the houses had kept up out of all proportion to the ordinary estate on the outskirts of London. He had not the least doubt that this was due to the open spaces which were provided for the houses and the very charming way in which the roads were laid out. That part of Notting Hill was once a racecourse and had the grand stand on the top, but was now replaced by a church, and the roads ran round the hill in a perfectly natural way. Professor Abercrombie talked of taking streets through the slums and converting them into industrial centres, which was very desirable, but, in his opinion, the greatest difficulty about the arrangement of the centres of towns was the slums. They could not make the tenants of the houses demolished come into the new houses erected. They had that trouble in Kensington. They had some slum areas there, and were thinking what could be done with them, but if they removed the inhabitants from one street they went to another. He had heard surveyors who had had to deal with the problems say that if they put these people into Park Lane in twelve months it would become a slum area. It was an extraordinarily difficult problem, and it wanted the wisest men in the country to lay their heads together and consider how it could be dealt with. Until this was done he was sure the replanning of the central areas of towns would be greatly hindered.

HOUSING AND TOWN-PLANNING NOTES.

Housing in South Wales.

Sanction has been received by the Ogmore and Garw Council, South Wales, to a loan of £12,400 for building houses at Nantymoel, and £23,000 for houses at Llangeinor.

Housing Progress in Scotland.

The following figures show the progress that has been made in State-aided housing schemes in Scotland to March 31, 1922:—

Permanent houses completed.....	6,408
Temporary „ „	650
Reconstructed houses completed	89
Houses built under the Private Subsidy Schemes	1,503
	8,650

In addition, there are 12,863 houses under construction, of which 1,819 are being built by private persons with the aid of the Government subsidy. The total amount paid by the Scottish Board of Health in respect of the 1,503 houses completed under the private subsidy schemes is £362,359 13s. 4d.

Houses for the Middle Classes.

In its fortnightly memorandum, the National Housing and Town-Planning Council states that there are two housing problems—the problem of the middle-class family, and the problem of the working-class family. Scores of thousands of families of professional men and others with a limited income are greatly in need of accommodation of a kind and character which the speculative builder is anxious and willing to provide. The potential demand on the part of lower middle-class families for cottage villas, which can be run with a minimum of domestic service, is, moreover, of such a scope and character as to lead to the belief that, provided the price asked is an uninflated one, say, from £600 to £700, quite a hundred thousand cottage villas could, if built, be readily sold within the next five years.

One Hundred More Houses Wanted.

The Rhymney U.D.C. has applied for sanction to erect a further 100 houses under their housing scheme.

THE BUILDING TRADE.

ARCHITECTS AND THE SPECULATIVE BUILDER

We have received the following letter from Mr. H. R. Selley, Chairman of the London House Builders' Association :—

Sir,—I have read with interest the article by Mr. Wilfred Travers, F.R.I.B.A., in your issue for April 14, and have failed to find any contribution to help the solution of the housing problem. He deals at length with a matter on which all are agreed, viz., that we want a higher standard of house building in the future; then he goes on to warn his brother architects against the danger of coalition with builders. Mr. Manning Robertson has taken fright and puts himself right in your last issue.

Now, I did not read in Mr. Robertson's article any suggestion of co-partnership with builders, but there were several excellent suggestions which, if adopted, would cheapen housing. He mentioned modification of by-laws, &c., which prompted me to say there was room for architect and builder to get together. My humble attempt to state the case and offer a few practical suggestions was bound to be criticised, but I am afraid my remarks have been misunderstood.

I would be the last to suggest that house builders be given a free hand under "12/3" or any other scheme which draws on the public purse, and must point out the regulations for this scheme were covered by specification and ample supervision to protect the public and ensure first-class work.

Nottingham carried it out successfully and got cheaper houses than any other town. If private enterprise is to build houses for occupying owners, it must be in a position to finance the purchaser, as he is usually a man with small capital. I suggested the development of the Small Dwellings Acquisition Act, but here, again, no public money could be advanced, except on the certificate of a qualified surveyor.

The country wants houses, wants them now, wants them in hundreds of thousands, wants them cheap, and wants to know who is going to pay for them. The Geddes Report made drastic comment on the Government's venture and seriously suggested cutting the loss. That still leaves the problem to be dealt with.

The question which interests the public is, how is the difficulty to be met? To continue the Government's scheme is to lead the country into bankruptcy. If private enterprise is to take its share, it must be on economic lines. Can this be done without the architects? Unless those interested get together I am afraid we shall drift back to the old method.

The public can only get the houses they pay for. We read that Government departments are letting contracts at 9d. per foot, which is equivalent to 4½d. pre-war. The great work for the architect is to educate the public to pay for quality. I am convinced the house builder will be the first to respond and give of his best.

THE LONDON MASTER BUILDERS' ASSOCIATION

There was a pleasing function in the Cinema Hall, Olympia, on Wednesday afternoon, when a reception was held in connection with the London Master Builders' and Allied Industries' Association. The guests were received by the President, Mr. Roland B. Chessum, and Mrs. Chessum. Among those present were Mr. John Good (President of the National Federation of Building Trades' Employers), Mr. E. J. Brown, Mr. A. J. Forsdike, Mr. and Mrs. Wade, Mr. J. Greenwood, Mr. E. J. Strange, Mr. Wallace, Mr. and Mrs. Ploughman, Mr. and Mrs. Stewart and the Misses Stewart, Mr. and Mrs. Sillito, Mr. Long, Mr. Thorpe, Mr. Imbell, Mr. Smith, Mr. Hall, Mr. Nichols, Major Holliday, Mr. Curtis, Mr. Matthews, Mr. Townsend, Mr. J. Macfarlane, Mr. Negus Mr. Collier, Mr. Jones, Mr. Elliott, Mr. Culver, Mr., Mrs. and Miss Loseby, Mr. Beale, Mr. G. S. Roberts, Mr. Charlesworth, Mr. Wakeham, Mr. Stirling, Major Thorne, Mr. Walton, Mr. and Mrs. Secrett, Mr. and Mrs. Vincent, Mr. Dennis, Mr. and Mrs. Haseldine, Mr. and Mrs. Whitehead, Mr. and Mrs. Franklin, Mr. Soper, Mr. and Mrs. Harvey, Mr. Baker, Mr. Adamson, Mr. Penn, Mr. Field, Mr. W. Webster, Mr. R. Webb, Mr. Cook, Mr. King, Mr. T. Anderson, Mr. W. King, Mr. Faulkner, Mr. Bywater, Mr. Cathcart, Mr. Hyne, Mr. Hyne, jun., Mr. Dexter, Mr. and Mrs. Kinnaid, Mr. Clay, Mr. and Mrs. Mace, Mr. Gaze, and others.

There was nothing in the way of formal speeches, the proceedings being of a purely social character. Light refreshments were served, and selections were rendered at intervals by an orchestra.

DETECTION OF QUICKLIME IN THE PRESENCE OF SLAKED LIME.

A Note from the Building Research Board.

In certain processes, such as the manufacture of sand-lime bricks, it is important that lime should be fully slaked. For the detection of quicklime (CaO) in the presence of slaked lime [$Ca(OH)_2$], it is suggested that use be made of the micro-chemical test suggested by White (*Journal English Industrial Chemistry*, 1909, I, 5) for the detection of free lime in Portland cement.

Reagent.—5 gr. phenol are dissolved in 5 c.c. nitro-benzol and two drops of water are added.

Method.—1-2 mgr. of material are placed in the centre of a slide, a drop of the reagent put upon it, then a cover-slide, which is pressed down and rubbed gently to and fro till the material spreads out somewhat. The slide is then observed under the polarising microscope with crossed Nicols. In the presence of lime clusters of radiating needles develop, and it is suggested that differences in the rate of development of these needles may be used to show the presence of quicklime in a sample of slaked lime.

Experimental.—Specimens of :—

(1) Entirely slaked lime
(2) Quicklime
(3) Slaked lime containing 50% quicklime
(4) " " 20% "
(5) " " 5% "
(6) " " 2% "
(7) " " 1% "

were observed with the above reagent.

In every case brilliant clusters of radiating needles developed, but there were marked differences in the time of the first appearance of these needles as will be seen from the following :—

(1) Slaked lime [$Ca(OH)_2$]	No indication of crystals for *five minutes.*
(2) Quicklime (CaO)	Crystals develop *instantaneously.*
(3) 50% Quicklime	Clusters of crystals at once visible.
(4) 20% Quicklime	Clusters of crystals found in *one minute.*
(5) 5% Quicklime ..	Clusters of crystals found in *one and a half minutes.* Well developed in *two minutes.*
(6) 2% Quicklime ..	Clusters of crystals found in *two minutes.*
(7) 1% Quicklime ..	Clusters of crystals found in *two minutes,* well developed in *three minutes.*

Since in the case of slaked lime it is fully five minutes before there is any indication of crystals, whereas the development is instantaneous with quicklime, it should be possible to find even less than 1% quicklime in a sample of slaked lime, it being chiefly a question of how quickly a whole slide can be explored and the clusters of needles developed from the quicklime found.

NEW BUILDINGS IN LONDON.

Westminster.—The erection of a new block of offices, to be known as "King's Buildings," is now in an advanced stage on a site in Dean Stanley-street, Smith-square. The new block, consisting of nine floors, including basement, has a frontage of 100 ft. and a return of 80-ft., and is being constructed in steel and brickwork with a slate and asphalte roof. The general contract is being carried out by Messrs. Ford & Walton, Ltd., of 242, High-road, Kilburn, N.W.6. The plans have been prepared by Mr. H. J. S. Abrams, architect, of 19, Buckingham-street, W.C.2. A number of sub-contracts have been allotted as follows: — Steelwork: Messrs. Archibald D. Dawnay & Sons, Ltd., of Steelworks-road, Battersea, S.W.11; reinforced concrete stairs: Messrs. Malcolm McLeod & Co., Ltd., of Glen-road, E.17; glazing: Mr. W. J. Rasey, of Leveridge-road, Kilburn, N.W.6; lifts: Messrs. Express Lift Co., Ltd., of 9, Greycoat-street, S.W.1.

Peckham.—A commencement has been made with the large extension to the drapery establishment of Messrs. Jones & Higgins, Ltd.; the new work, occupying a site extending from No. 25-35, Rye-lane, will provide an additional frontage of 100 ft. with a return of 50 ft. The plans drawn up by the architect, Mr. H. Payne Wyatt, of 415, Brixton-road, S.W.9, show a brick and steel building of three floors to be fitted as shops, arcades and showrooms. The extension will join up to and be finished in similar style to the existing premises at Nos. 37-41, Rye-lane. The general contract has been secured by Messrs. F. & H. F. Higgs, Ltd., of Station Works, Hinton-road, Herne-hill, S.E.24. The steelwork will be supplied by Messrs. Archibald D. Dawnay & Sons, Ltd, of Steelworks-road, Battersea, S.W.11. New shopfronts and fittings will be installed by Messrs. Samuel Haskins & Bros., Ltd., of 20, Old-street, E.C.1. The other sub-contracts have not yet been settled. The contract also includes certain alterations at the rear of the existing premises.

The rebuilding of the L.C.C. Sumner-road Elementary School is now well advanced. The plans, prepared by the Council's Architect, Mr. G. Topham Forrest, F.R.I.B.A., F.G.S., provide for a building of three floors, built in steel and brickwork with reinforced concrete floors and artificial stone dressings to the elevations. The total accommodation provided will be 28 class-rooms and three halls. The general contract, amounting to just over £41,000, was secured by Messrs. J. & C. Bowyer, Ltd., of Weston-street, Upper Norwood, S.E. The work is proceeding in three sections; the first section having a frontage of 50 ft. and a return of 50 ft. is already completed. The second section now completing has a frontage of 100 ft. and a return of 50 ft. The remaining section will be 32 ft. wide with an elevation of 60 ft. to Sumner-avenue. An asphalte roof-playground will be constructed by Mr C. Colombi, of 18, Summers-street, E.C.1. A twin heating system with two boilers in the basement, also a single pipe system, will be installed by Messrs. Palowkar & Sons, of 90, Queen-street, E.C.4. The artificial stone dressings which form a considerable feature in the elevation have been made by Messrs. A. C. W. Hobman & Co., Ltd., of Cliftonville-street, Bermondsey, S.E.17. Other sub-contracts settled are :—Steelwork: Messrs. Dorman, Long & Co., Ltd., of 4, Central Buildings, S.W.1; glazing: Messrs. Goldstein, of Gillingham. A number of up-to-date mechanical appliances are being used on the site, all driven by electric

power, including a mortar pan, brick-crusher, concrete-mixer and an "Exe" hoist.

BATTERSEA.—An extension is now being made to the drapery stores of Messrs. David Thomas, Ltd., at No. 55, Falcon-road. The new building will provide an additional frontage of 30 ft. to Falcon-road, with an elevation in Kerrison-road. The plans show a three-story building of steel and reinforced concrete faced with red-brick and artificial stone. The main contract is being carried out by Messrs. Bainbridge & Son, building contractors and shop fitters, of Eastbourne; the constructional engineers are Messrs. Young & Co., of 6, Queen Anne's-gate, S.W. 1.

THAMES DITTON.—The ground in front of the old mansion, "High House," in Station-road, owned by Messrs. Auto-Carriers, Ltd., has been given over to the Urban District Council, which is having the triangular shaped brick boundary wall of the house set back about 50 ft., thus eliminating a very dangerous corner for road traffic. In addition, "High House" itself is undergoing extensive reconstruction, including the division of the interior into flats for the staff of Messrs. Auto-Carriers, Ltd. For this purpose, breeze-partition slabs will be used. The plans have been prepared by the architect, Mr. Lee, of Gt. Bookham, Surrey. The contract, which has been secured by Messrs. W. H. Brown (Leatherhead), Ltd., builders, of Dorking and Leatherhead, includes the provision of new sanitary arrangements. The lighting will be executed by Messrs. Auto-Carriers' own staff.

LEWISHAM.—Preliminary operations are in progress in connection with the rebuilding of the "Prince of Wales" Picture Theatre, at 210, High-street. The plans, which have been drawn up by Mr. J. Stanley Beard, of 76, Westbourne-grove, W. 2, show a single floor building having a frontage of about 100 ft. and a return of 140 ft., to be built in steel and brickwork with a slate roof about 40 ft. to eaves. The frontage of the building will be finished in terra-cotta and red brick, with coloured marble piers. The building will have a large seating capacity, modern ventilation, a lounge, café, &c., and will embody modern improvements. A novel feature will be the provision of waiting rooms for patrons on each side of the building and extending its entire length. The general contract has been secured by Mr. H. Kent, of Beacon-road, Hither Green, S.E. 13. The steelwork will be supplied by Messrs. Aston Construction Co., Ltd., of Eagle Wharf-road, Hoxton, N. 1. No other sub-contracts have yet been decided.

Brazilian Centenary Exhibition.

AN exhibition to celebrate the centenary of the independence of Brazil will be held at Rio de Janeiro, from September 7 to December 31 next, and will offer excellent opportunities for British firms to extend, and open up new business in South America. The sum of £60,000 is being expended by this country, while others, in view of future trade prospects with that continent, are contributing even larger sums. The British section is being organised by the Department of Overseas Trade, 35, Old Queen-street, S.W., and in order to facilitate means whereby intending exhibitors can put up the most adequate display of their goods at the most reasonable cost, and to propagate new ideas for advertising, the Department has opened at 2, Queen Anne's Gate Buildings, S.W., an advertising exhibition, with which the British Institute of Industrial Art is co-operating. The exhibits include working models, photographic transparencies in natural colours, cinema displays, projectors, a miniature railway, and a section of an illuminated Mercator's projection of the entire world, with mechanically propelled ships, which will traverse the Empire sea routes from all ports to Rio. The exhibition at Queen Anne's Gate Buildings is to be permanent.

Builders' Estates.

Mr. Harry Arthur Turner, of Pikes-hill, Lyndhurst, Hampshire, builder, left estate value £7,787.

Mr. James Egerton Lloyd, of Hereford, builder, left estate value £2,060.

RATES OF WAGES IN THE BUILDING TRADE.

The following are the rates of wages in the building trade in England and Wales. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur:—

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers	Slaters.	Plumbers.	Painters.	Masons' Labourers.	Bricklayers' Labourers.	Plasterers' Labourers.
Aberdare	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Accrington	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Altrincham	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Ashton-under-Lyne	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Barnsley	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Barrow-in-Furness	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Barry	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Bath	1/7	1/7	1/7	1/7	1/7	1/7	1/7		1/2½	
Bedford	1/6	1/6	1/6	1/6	1/6	1/6	1/6		1/1½	
Birkenhead	2/2	2/2	2/2	2/2	2/2	2/2	2/2		1/9½	
Birmingham	1/10	1/10	1/10	1/10	1/10	1/11	1/10		1/5	
Bishop Auckland	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Blackburn	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Blackpool	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Bolton	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Bournemouth	1/6	1/6	1/6	1/6	1/6	1/6	1/6		1/1½	
Bradford	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Bridgwater	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½		1/0½	
Brighton	1/6	1/6	1/6	1/6	1/6	1/6	1/6		1/1½	
Bristol	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Burnley	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Burton-on-Trent	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/3½	
Bury	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Cambridge	1/6	1/6	1/6	1/6	1/6	1/6	1/6		1/1½	
Cardiff	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Chatham	1/5	1/5	1/5	1/5	1/5	1/5	1/5		1/1	
Chelmsford	1/6	1/6	1/6	1/6	1/6	1/6	1/6		1/1½	
Cheltenham	1/7	1/7	1/7	1/7	1/7	1/7	1/7		1/2½	
Chester	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Chesterfield	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Colchester	1/6	1/6	1/6	1/6	1/6	1/6	1/6		1/1½	
Coventry	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Crewe	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/3½	
Darlington	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Derby	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Doncaster	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Dudley	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/3½	
Durham	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
East Glam. and Mon. Valleys	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Exeter	1/6	1/6	1/6	1/6	1/6	1/6	1/5		1/1½	
Folkestone	1/5	1/5	1/5	1/5	1/5	1/5	1/5		1/1	
Gloucester	1/7	1/7	1/7	1/7	1/7	1/7	1/6		1/2½	
Grantham	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/3½	
Grays	1/10	1/10	1/10	1/10	1/10	1/10½	1/9		1/5	
Grimsby	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Great Yarmouth	1/5	1/5	1/5	1/5	1/5	1/5	1/5		1/1	
Guildford	1/6	1/6	1/6	1/6	1/6	1/6	1/6		1/1½	
Halifax	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Harrogate	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Hartlepools	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Hastings	1/5	1/5	1/5	1/5	1/5	1/5	1/5		1/1	
Hereford	1/7	1/7	1/7	1/7	1/7	1/7	1/6		1/2½	
Huddersfield	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Hull	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Ipswich	1/6	1/6	1/6	1/6	1/6	1/6	1/6		1/1½	
Lancaster	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Leamington Spa	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/3½	
Leeds	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Leicester	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Lichfield	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/3½	
Lincoln	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Liverpool	2/2	2/2	2/2	2/2	2/2	2/2	2/2		1/9½	
Llanelly	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
London	1/10	1/10	1/10	1/10	1/10	1/10½	1/9		1/5	
Loughborough	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Luton	1/6	1/6	1/6	1/6	1/6	1/6	1/6		1/1½	
Maidstone	1/5	1/5	1/5	1/5	1/5	1/5	1/5		1/1	
Manchester	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Mansfield	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Merthyr Tydfil	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Middlesbrough	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Newcastle-on-Tyne	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Newport, Mon.	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Northampton	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/3½	
Norwich	1/6	1/6	1/6	1/6	1/6	1/6	1/6		1/1½	
Nottingham	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Oakham	1/7	1/7	1/7	1/7	1/7	1/7	1/7		1/2½	
Oldham	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Oxford	1/6	1/6	1/6	1/6	1/6	1/6	1/6		1/1½	
Plymouth	1/8	1/8	1/8	1/8	1/8	1/8	1/7		1/3½	
Pontypridd	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Portsmouth	1/6	1/6	1/6	1/6	1/6	1/6	1/6		1/1½	
Preston	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Reading	1/6	1/6	1/6	1/6	1/6	1/6	1/6		1/1½	
Rochdale	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Rochester	1/5	1/5	1/5	1/5	1/5	1/5	1/5		1/1	
Rugby	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/3½	
St. Albans	1/6	1/6	1/6	1/6	1/6	1/6	1/6		1/1½	
St. Helen's	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Scarborough	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/3½	
Sheffield	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Shrewsbury	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/3½	
Southampton	1/6	1/6	1/6	1/6	1/6	1/6	1/6		1/1½	
Southend-on-Sea	1/6	1/6	1/6	1/6	1/6	1/6	1/6		1/1½	
Southport	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
South Shields	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Stockport	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Stockton-on-Tees	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Stoke-on-Trent	1/10	1/10	1/10	1/10	1/10	1/11	1/10		1/1½	
Stroud	1/6	1/6	1/6	1/6	1/6	1/6	1/5½		1/5	
Sunderland	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Swansea	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/2½	
Swindon	1/7	1/7	1/7	1/7	1/7	1/7	1/6		1/1½	
Taunton	1/6	1/6	1/6	1/6	1/6	1/6	1/6		1/1½	
Torquay	1/6	1/6	1/6	1/6	1/6	1/6	1/6		1/1½	
Tunbridge Wells	1/6	1/6	1/6	1/6	1/6	1/8	1/6		1/5	
Wakefield	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/3½	
Walsall	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/5	
Warrington	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
West Bromwich	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5	
Wigan	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/1½	
Windsor	1/6	1/6	1/6	1/6	1/6	1/8	1/8		1/5	
Wolverhampton	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/3½	
Worcester	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/5	
York	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½			

(For rates of wages in the Building Trade in Scotland, see page 665.)

CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in; the name and address at the end is the person from whom or place where quantities, forms of tender, &c., may be obtained.

BUILDING AND PAINTING.

APRIL 29.—**Abernant.**—RENOVATING.—For renovating the Capel Cendy. Mr. D. Davies, Trallwyn, Abernant, College-road, Carmarthen.

APRIL 29.—**Bradford.**—HOUSES.—For the erection of the following houses:—Housing scheme No. 4, Scholemoor—16 houses, class A; 18 houses, class B; and 16 houses, class B and B4, for the T.C. City Architect, Town Hall, Bradford.

APRIL 29.—**Lochgelly.**—FENCING.—Erection of oak and larch fencing in connection with the second development of the housing scheme, for the T.C. Mr. Robert Small, Town Clerk, Town House, Lochgelly. Deposit £2 2s.

MAY 1.—**Almondbury.**—PAINTING.—Outside painting of Wesleyan school, chapel, and caretaker's house. Mr. Lewis Stansfield, 23, Wormald-street, Almondbury.

MAY 1.—**Burton-on-Trent.**—HOUSES.—For the erection of 8 houses at Wellington-street, for the T.C. Mr. G. T. Synam, Engineer, Town Hall, Burton-on-Trent.

MAY 1.—**Carmarthen.**—PAINTING.—For painting and colouring at various schools, for the C.C. Mr. W. Vincent Morgan, County Architect, County Offices, Carmarthen.

MAY 1.—**Greenwich.**—EXTENSION.—Building of an extension of the Central Library at Woolwich-road, for the B.C. Borough Engineer, Town Hall, Greenwich-road, Greenwich, S.E. Deposit £2 2s.

MAY 1.—**Huddersfield.**—CONVENIENCE.—Erection of a public urinal at the Bradley tram terminus, for the T.C. Borough Architect, 1, Peel-street, Huddersfield.

MAY 1.—**Louth.**—ADDITIONS.—Erection of new staff quarters and dining-room at Louth Hospital. Mr. Ernest E. Bentley, architect, Bank Buildings, 26, Victoria-street, Grimsby.

MAY 1.—**Maidstone.**—COTTAGE.—Erection of a cottage at Herts Farm, Loose, near Maidstone, for the Kent C.C. County Land Agent, Sessions House, Maidstone.

MAY 1.—**Manchester.**—BUILDING.—Erection of a timber-framed structure on brick foundations, at recreation ground, off Matthews-lane, Levenshulme. Mr. J. Gibbons, architect, 4, St. Mary's Parsonage, Manchester.

MAY 1.—**Milnsbridge.**—BUNGALOW.—Erection of bungalow at Milnsbridge. Messrs. J. H. Hall & Son, architects, Exchange Buildings, Market-street, Huddersfield.

MAY 1.—**Southend-on-Sea.**—BILLIARD ROOM.—Erection of billiard hall at the Southend Hall, for the directors. Messrs. Burles, Harris & Collings, architects, Clarence-street, Southend-on-Sea. Deposit £2 2s.

MAY 1.—**Steeple Claydon.**—REPAIRS.—Repairs to farm house, water supply, &c., at Claydon Hill Farm, for the Bucks C.C. Mr. G. M. Odam, County Land Agent, 21, Walton-street, Aylesbury.

MAY 2.—**Lincolnshire.**—HOUSES.—Erection of two small single houses and additions to another pair of houses on the Carter Estate, Eastville, for the Lincolnshire C.C. Messrs. Scorer and Gamble, Bank-street Chambers, Lincoln. Deposit £1.

✱MAY 2.—**Plaistow, E.13.**—NURSES' HOME.—For the new Nurses' Home at Florence-road, Plaistow. Messrs. George Lansdown & Brown, architects, 9, Regent-street, S.W.1.

✱MAY 2.—**Streatham Common, S.W.**—FENCING.—Supply and erection of wrought iron boundary fencing, &c., at The Chimes, Streatham Common, S.W., for the L.C.C. Chief Officer, Parks Department, New County Hall, Belvedere-road, Westminster.

MAY 3.—**Bentham.**—COTTAGE.—Erection of cottage on the Bentham Estate, for the West Riding C.C. County Land Agent, County Hall, Wakefield.

MAY 3.—**Huddersfield.**—HOUSE, ETC.—Erection of house and shop at Broad-lane, Dalton, Huddersfield. Messrs. Stocks, Sykes, & Dickson, architects, 1, St. Peter's-street, Huddersfield.

MAY 3.—**Purley.**—REPAIRS, PAINTING AND DECORATION.—Repairs, painting and decoration at the Isolation Hospital, Beddington Corner, near Mitcham Junction, for the Wandle Valley Joint Hospital Board. Mr. R. M. Chart, Board's Surveyor, Lower Green, Mitcham. Deposit £2.

MAY 3.—**Todmorden.**—RESLATING.—For reslating the roof of the Cornholme Council School, for the Education Committee. Education Offices, Rise-lane, Todmorden.

MAY 4.—**Falmouth.**—HOUSES.—Erection of 14 houses, for the T.C. Mr. C. R. Corfield, Architect, Municipal Buildings, Falmouth.

MAY 4.—**Lanchester.**—HOUSES.—Erection of 10 houses at Langley Park, for the R.D.C. Mr. Thomas E. Taylor, Union Offices, Lanchester.

MAY 4.—**Taplow.**—TELEPHONE STATION.—Erection of telephone repeater station, for H.M. Office of Works. Contracts Branch, H.M. Office of Works, King Charles-street, S.W. Deposit £1 1s.

MAY 5.—**Barnsley.**—HOUSES.—For erection of 20 houses Type "A," to be erected on the Wilthorpe Housing Estate, Huddersfield-road, Barnsley; and eight houses Type "A" at Racecommon-road, Barnsley. Architect, Mr. Charles F. Moxon, Regent Chambers, Regent-street South, Barnsley.

MAY 5.—**Bexhill.**—ALTERATIONS.—For alterations and additions to the fire brigade station, for the T.C. Mr. G. Ball, Borough Surveyor, Town Hall, Bexhill.

MAY 5.—**Carlisle.**—HALL.—Erection of Victory Hall at Dalston, Carlisle. Mr. H. E. Ayris, architect, 68, Lowther-street, Carlisle.

MAY 5.—**Chester.**—WALL.—For strengthening retaining wall, &c., at Grosvenor Bridge, for the T.C. Mr. C. Greenwood, City Engineer, Town Hall, Chester. Deposit £2 2s.

MAY 5.—**Hope.**—FARM BUILDINGS.—Construction of new farm houses and outbuildings, and the adaptation of existing buildings on the Derby Park Estate, Hope, for the Flintshire C.C. Mr. R. G. Whitley, County Surveyor, County Buildings, Mold. Deposit £1.

MAY 5.—**Otley.**—PAINTING.—Cleaning and painting parish church. Mr. Edgar C. Newstead, Parochial Church Council, Union Offices, Otley.

MAY 5.—**Penistone.**—MORTUARY.—For erection of a new mortuary at Penistone, near Huddersfield, for the Penistone Joint Burial Committee. Architects, Messrs. R. & W. Dixon, Llcs.R.I.B.A., 5, Eastgate, Barnsley.

MAY 6.—**Radcliffe.**—PAINTING.—Painting of Council offices and cemetery buildings, for the U.D.C. Mr. W. L. Rothwell, Engineer, Council Offices, Radcliffe.

✱MAY 8.—**Aberystwyth.**—ALTERATIONS AND ADDITIONS.—Making alterations and additions to the Infirmary at Aberystwyth. The Secretary, at the Infirmary.

MAY 8.—**Greenwich.**—LODGE.—Erection of superintendent's lodge at Cemetery, for the B.C. Borough Engineer, Town Hall, Greenwich. Deposit £2 2s.

MAY 9.—**Bungay.**—CONVERSION.—For converting "Avona House," Earsham-street, Bungay, into shop, with show-rooms, for the Beccles Working Men's Co-operative Association, Ltd. Mr. Arthur Pells, architect, 3, Hungate, Beccles.

MAY 9.—**Whitehaven.**—HOUSES.—Erection of fifty houses, for the T.C. Mr. J. S. Stout, architect, 36, Lowther-street, Whitehaven.

✱MAY 12.—**Chelsea.**—CLEANING, &C.—For cleaning and painting the large room, platform ante-room, and lower hall at the Town Hall, King's-road, Chelsea. The Borough Surveyor, Town Hall, King's-road, Chelsea, S.W.3.

✱MAY 12.—**Huddersfield.**—WORKS, &C.—For the execution of ordinary works and repairs for the Commissioners of H.M. Works. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W.1.

✱MAY 12.—**Leeds.**—Alterations, &c., at the Ministry of Pensions for the Commissioners of H.M. Works. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W.1. Deposit £1 1s.

✱MAY 16.—**Plaistow.**—HOUSES.—Erection of 28 houses in Cumberland-road for the County Borough of West Ham. Borough Engineer, Town Hall, West Ham, E.15. Deposit £2.

✱MAY 18.—**London, E.1.**—EXTERNAL REPAIRS, PAINTING.—External repairs and painting to Institution at Bancroft-road, Mile End, E.1, for the Guardians of the Poor of the Hamlet of Mile End Old Town. Mr. Edmund J. Harrison, architect, 23, Berkeley-road, Crouch End, N.8. Deposit £5.

MAY 26.—**Hammersmith.**—SHOPS.—For the erection of 4 shops with flats over, on the Wormholt Housing Estate, for the B.C. Mr. Leslie Gordon, Town Clerk, Town Hall, Hammersmith, W.6. Deposit £2 2s.

NO DATE.—**Eccles.**—PAINTING.—Internal decoration of Eccles Liberal Club, Wellington-road. Mr. William Hulland, Secretary, Club, Eccles.

NO DATE.—**Merthyr.**—ALTERATIONS.—Alterations to 132, High-street, Merthyr, for Mr. Judd. Messrs. Johnson & Richards, architects, Merthyr Tydfil. Deposit £2 2s.

NO DATE.—**Rawcliffe.**—HOUSE.—Erection of house, Station-road Mr. C. D. Taylor, architect, High-street, Rawcliffe.

NO DATE.—**Skipton.**—FOUNDATIONS.—Excavating and building retaining walls on the site of a proposed new theatre in Keighley-road, Skipton, for Mr. M. H. Morris. Mr. J. W. Broughton, architect, Skipton.

FURNITURE, MATERIALS, etc.

MAY 1.—**Dublin.**—SLEEPERS.—Supply to the Midland Great Western Railway of Ireland of 40,000 soft wood sleepers, 9 ft. by 10 in. by 5 in. Chief Engineer, Broadstone Terminus, Dublin.

MAY 1.—**Glasgow.**—MATERIALS.—Supply of materials, &c., and the execution of the jobbing work, for the Lighting Department. Office of the Lighting Department, 20, Trongate, Glasgow.

MAY 1.—**Samford.**—GRANITE.—Supply of from 2,500 to 3,000 tons of granite to the R.D.C. Mr. A. J. Haward, Clerk, 5, Museum-street, Ipswich.

MAY 1.—**Shoreham.**—ROAD MATERIALS.—Supply of granite and flints to the U.D.C. Surveyor, Council Offices, Shoreham-by-Sea.

MAY 1.—**South Mimms.**—MATERIALS.—Supply of granite gravel, hoggin and tar, to the R.D.C. Mr. G. Simcox, surveyor, "Beerwood," Potters Bar.

MAY 1.—**Warrington.**—FENCING.—Supply of (1) 100 lineal yards of wrought iron unclimbable hurdles with gates; (2) 1,200 lineal yards of cleft chestnut pale fencing, for the T.C. Mr. Andrew M. Ker, Borough Engineer, Warrington.

✱MAY 3.—**London, S.E.**—COMBINATION SINKS.—Supply of twelve combination sinks to the Lewisham Hospital, for the Guardians of the Lewisham Union. Mr. W. R. Owen, Clerk to the Guardians, Guardians' Offices, 394, High-street, Lewisham, S.E.13.

MAY 9.—**Glasgow.**—MATERIALS.—Supply of materials to the Tramways Department. Mr. James Dalrymple, General Manager, 46, Bath-street, Glasgow.

MAY 9.—**Richmond.**—STORES.—Supply of grey lime, Buxton lime, sewage precipitants, &c., to the Richmond Main Sewerage Board. Mr. William Fairley, engineer, West Hall-road, Kew-gardens, Surrey.

BUILDING TRADE WAGES IN SCOTLAND.*

THE following are the present rates of wages in the building trade in the principal towns of Scotland. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur:—

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Masons' Bricklayers' Plasterers' Labourers.
Aberdeen	1/7½	1/10½	1/7½	1/7½	1/9	1/9	1/7	1/2 to 1/4
Airdrie	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½
Alexandria	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½
Arbroath	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/5½
Ayr	1/10	1/10	1/10	1/10	1/10	1/10	1/9	1/5½ to 1/6½
Bathgate	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/9	1/5½ to 1/6½
†Blairgowrie	1/9	1/11½	1/9	1/9	1/9	1/9	1/7	—
Bo'ness	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/-	1/8
Coatbridge	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½
Dumbarton	1/10	1/10	1/10	1/10	1/10	1/10	1/9	1/5
Dumfries	1/8	1/8	1/8	1/8	1/8	1/11½	1/8	1/2½ 1/2½ 1/3½
Dundee	1,10	1/10	1/10	1/10	1/10	1/10	1/9	1/5
Dunfermline	2/0½	2/0½	2/0	2/0	2/0½	2/0½	—	1/7½
Duns	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/0
Edinburgh	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½
Falkirk	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½
Fort William	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/2½
Galashiels	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	—	—
Glasgow	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/1	1/7½
Greenock	1/10	2/0½	1/10	1/10	2/0½	1/9½	1/9	1/5½
Hamilton	1/10	1/10	1/10	1/10	1/10	1/10	1/9	1/7½
Hawick	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Helensburgh	2/0½-1/10½	2/0½-1/10½	2/0-1/10	2/0½-1/10½	2/0½-1/10½	2/0-1/10	1/9	1/7½ to 1/5½
Inverness	1/6½	—	1/6	1/7	1/6½	1/9	1/6	1/0 to 1/3
Kilmarnock	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/1	1/7
Kirkcaldy	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/6½
Kirkwall	1/9	1/9	1/9	1/9	1/9	1/9	—	1/2
Lanark	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7
Motherwell	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½
Perth	1/10	1/10	1/10	1/10	1/10	1/10	1/9	1/4
Stirling	1/10	1/10	1/10	1/10	1/10	1/10	1/9	1/5
Stirlingshire (Eastern District)	2/0	2/0	2/0	2/0	2/0	2/0	1/9	1/7
Wishaw	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½

* The information given in this table is copyright. The rates of wages in the various towns in England and Wales are given on page 664.

† For housing work only; for other work, Masons 1/6, Painters 1/9, Labourers 8d. to 1/-.

ENGINEERING, IRON AND STEEL.

APRIL 29.—**Needham Market.**—BRIDGE.—Construction of 43 ft. waterway, in three spans, the centre 22 ft.; to be reconstructed on an approved system of reinforced concrete, for the East Suffolk C.C. Mr. H. Miller, 16, Museum-street, Ipswich. Deposit £2 2s.

APRIL 29.—**Salford.**—HEATING.—For heating installation at Broughton High School, for the T.C. Secretary, Education Office, Chapel-street, Salford.

MAY 1.—**Eccles.**—RAILINGS.—Providing and fixing 1,700 lineal yards of unclimbable iron railings and gates to lands at Peel Green, Patricroft, for the T.C. Borough Engineer, Town Hall, Eccles. Deposit £1.

MAY 1.—**Glasgow.**—GATES, RAILINGS, &C.—Wrought iron railings, gates, and bronze metal grilles required in connection with the extension of the municipal buildings. Messrs. Watson, Salmond & Gray, 242, West George-street, Glasgow. Deposit £5.

MAY 1.—**Middleton.**—ELECTRIC LIGHTING.—For the electric installation at Providence Congregational Church, Middleton. Mr. S. Pauls, Borough Electrical Engineer, Middleton.

MAY 1.—**Newmarket.**—WATER SUPPLY.—Sinking of well, the erection of brick water tower, &c., at Soham, for the R.D.C. Messrs. Sands & Walker, Milton Chambers, Milton-street, Nottingham. Deposit £3 3s.

MAY 1.—**Oxford.**—BRIDGE.—For rebuilding Pacey's Bridge. Mr. J. E. Wilkes, Engineer, Town Hall, Oxford. Deposit £5.

MAY 2.—**Cardiff.**—BOILER HOUSE ROOF.—For the supply and erection of overhead steel bunkers, constructional steelwork and boiler-house roof, for the T.C. Electrical Engineer, The Hayes, Cardiff.

MAY 2.—**Cardiff.**—HOT WATER SERVICE.—Provision of new hot water service, boiler, range, &c., at Probationary Wards and Hospital Headquarters Homes, Ely, for the Board of Guardians. Mr. R. Stephenson, Clerk, Union Offices, 11, Park-place, Cardiff.

MAY 2.—**London.**—LOCOMOTIVES.—For the supply of locomotive engines, for the High Commissioner for India. Director-General, India Store Dept., Belvedere-road, Lambeth, S.E.1

MAY 3.—**London.**—WROUGHT IRON.—Supply to the East Indian Railway Company of wrought iron (billets, flats, rounds and squares). Mr. G. E. Lillie, Secretary, Nicholas-lane, London, E.C. 4. Charge, £1 1s.

MAY 4.—**Leeds, etc.**—ENGINEERING LABOUR.—Supply of engineering labour during the period of three years in the following districts: Leeds (Mechanical), Newcastle (Electrical and Mechanical), Southampton (Electrical and Mechanical), for H.M. Commissioners of Works. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W.1.

MAY 5.—**Chester.**—EMBANKMENT.—Rebuilding and strengthening portion of retaining wall and strengthening the whole of the embankment at Grosvenor Bridge, for the T.C. Mr. C. Greenwood, City Engineer, Town Hall, Chester. Deposit £2 2s.

MAY 5.—**Glasgow.**—WALLS.—Construction of reinforced concrete walls in the coal stores at Dawsholm Works, for the T.C. General Manager, Gas Department, 45, John-street, Glasgow. Deposit, £2.

MAY 5.—**London.**—STEEL SHEETS.—For the supply of steel sheets for tube making, for the High Commissioner for India. Director-General, India Store Department, Belvedere-road, Lambeth, S.E. 1.

MAY 7.—**Rochdale.**—SULPHATE OF AMMONIA PLANT.—Supply and erection of sulphate of ammonia plant, for the Gas Committee. Chairman, Gas Committee, Gas Works, Rochdale.

MAY 9.—**Manchester.**—LAUNDRY PLANT.—Supply at the Gorton Public Washhouse of 30 washstalls, 30 drying horses, with heater, fan, &c., and four hydro extractors. City Architect, Town Hall, Manchester. Deposit, 10s. 6d.

MAY 16.—**Maldon.**—LAUNDRY PLANT.—Supply and fixing of cookery and laundry plant at the Poor-Law Institution, for the Board of Guardians. Mr. W. Almond, 6, Market-hill, Maldon.

MAY 20.—**Enniskillen.**—RAILS.—Supply to the Sligo, Leitrim and Northern Counties Railway Company of 240 tons of British Standard flat-bottom steel rails, with fishplates. Secretary, S.L. and N.C. Railway, Enniskillen.

MAY 23.—**Bristol.**—GRAIN HANDLING PLANT.—Construction and erection on site of grain handling machinery for the New Granary, Royal Edward Dock, Avonmouth. Mr. Thomas A. Peace, Engineer, Engineer's Office, Avonmouth Docks. Deposit, £3.

JUNE 19.—**Argentina.**—BRIDGES.—Supply and erection of suspension bridges for local authorities. Dept. of Overseas Trade, 35, Old Queen-street, S.W.

AUGUST 1.—**Siam.**—RAILWAY CARRIAGES.—For the supply of 25 underframes for bogie carriages, for the Department of State Railways. Messrs. C. P. Sandberg, 40, Grosvenor-gardens, S.W.1. Charge £2.

OCTOBER 31.—**New South Wales.**—BRIDGE.—Construction of the superstructure and substructure of a cantilever bridge across Sydney Harbour from Dawes Point to Milson's Point, for the Government of New South Wales. Agent-General for New South Wales, Australia House, Strand, London, W.C.2.

NO DATE.—**Salford.**—BOILER.—Supply and erection of a new type "Ideal" water-heating boiler, capable of generating at least 604,800 B.T.U. per hour, and with direct radiation of 4,185 sq. ft., for the Board of Guardians. Mr. E. H. Inchley, Clerk, Offices, Eccles, New-road, Salford.

ROAD, SANITARY, AND WATER WORKS.

APRIL 29.—**Perthshire.**—ROADS.—Reconstruction of 14¼ miles of road through Glen Dochart, Glen Falloch, and at Tyndrum, for the Perthshire C.C. Mr. W. L. Gibson, Road Surveyor, Road Surveyor's Office, Dunblane. Deposit £2 2s.

MAY 1.—**Caerphilly.**—ROADS.—Widening various roads, for the U.D.C. Mr. T. H. Richards, Surveyor, Caerphilly. Deposit £2 2s.

MAY 1.—**Margate.**—WATER MAIN.—Supply and laying of about 450 yards of 6 in. C.I. water main, for the T.C. Mr. F. Stanley, 13, Grosvenor-place, Margate.

MAY 1.—**Stockport.**—SEWER.—Construction of a sewer from Heaton Norris Sewage Works to Stockport Sewage Works, Cheadle Heath, for the T.C. Mr. Herbert Hamer, Borough Surveyor, Town Hall, Stockport.

MAY 1.—**Swanage.**—TAR-SPRAYING.—For tar-spraying, for the U.D.C. Mr. F. B. Goodman, Surveyor, Town Hall, Swanage.

MAY 1.—**Urmston.**—ROADS.—For road-making and other improvement works on the Council's Golden-hill Estate. Mr. W. H. Longworth, architect, 4, St. Mary's Parsonage, Manchester. Deposit, £1 1s.

MAY 2.—**Trewarthenick.**—EMBANKMENT.—For demolishing an arch and the forming of an embankment at Trewarthenick, for the Truro R.D.C. Mr. Coulter Hancock, Clerk, 12, Princes-street, Truro.

MAY 3.—**Barnsley.**—ROADS.—For making and completing Cranbrook-street and Welbeck-street, Barnsley. Quantities and specifications may be had from the architect, Mr. H. Taylor, "Fairfield House," Barnsley.

MAY 4.—**Belper.**—SEWAGE DISPOSAL.—Construction of a small installation for sewage disposal works, for the Parish of Horsley; and also for sewage disposal works for the housing scheme of 25 cottages, in the Parish of Denby, for the R.D.C. Mr. Robt. C. Cordon, surveyor, Duffield, near Derby. Deposit, 10s. 6d.

MAY 4.—**Dover.**—ROADS, &C.—For construction of roads and sewers and laying of water mains in connection with housing scheme, for the T.C. Borough Engineer, Maison Dieu House, Dover. Deposit £2 2s.

MAY 4.—**St. Austell.**—WATER MAINS.—Laying water mains, erecting pumping station, building reservoirs, and carrying out certain works of water supply, in the Parish of St. Stephens, for the R.D.C. Surveyor, Hepworth's Chambers, Grant's-walk, St. Austell. Deposit, £1 1s.

MAY 5.—**Beverley.**—SEWERS.—Construction of sewers, screening and pump well, &c., at the sewage disposal works, for the T.C. Mr. William Fairley, Parliament Mansions, Westminster, S.W.

MAY 5.—**Swindon.**—SEWAGE DISPOSAL.—Construction of sewage purification works, Rodbourne, for the T.C. Mr. G. Midgley Taylor, 36, Victoria-street, Westminster, S.W.1. Deposit £5.

MAY 6.—**Egham.**—TAR PAVING.—For laying tar paving in the girls' and infants' playgrounds at the Englefield Green Schools, for the Managers. Mr. F. H. Villiers, Treasurer, Englefield Green.

MAY 8.—**Gravesend.**—EJECTOR STATIONS.—Supplying five ejector stations in different parts of the town, for the T.C. Mr. Frederick T. Grant, engineer, 4, Woodville-terrace, Gravesend. Deposit £1.

✱MAY 8.—**London.**—PAVING.—Execution of tar paving works and for the supply of tar paving materials to the various parks and open spaces in the County of London, for the London County Council. Chief Officer of the Parks Department, New County Hall, Spring Gardens, S.W.1.

MAY 11.—**Yeovil.**—SEWAGE WORKS.—Recharging the contact beds at sewage works at Matlock, for the R.D.C. Mr. A. J. Martin, engineer, 44, St. George's-square, Westminster, S.W. Deposit £2 2s.

MAY 15.—**Canterbury.**—REFUSE DESTRUCTOR.—Reconstruction of refuse destructor, for the T.C. Mr. P. H. Warwick, City Surveyor, Municipal Offices, Canterbury.

MAY 16.—**Maesteg.**—SEWAGE WORKS.—Extension of the sewage disposal works at Garth, for the U.D.C. Mr. S. J. Harpur, Surveyor, Talbot-street, Maesteg. Deposit £2 2s.

NO DATE.—**Boston.**—CULVERT.—Construction of about 45 yds. of a 4 ft. semi-circular concrete and iron culvert under the Kyme Eau. Messrs. Johnson & Robins, civil engineers, Bridge-street, Boston.

NO DATE.—**Wycombe.**—SEWAGE WORKS.—Construction of sewage outfall works, for the T.C. Mr. T. J. Rushbrooke, Borough Engineer, 25, Easton-street, High Wycombe. Deposit £2 2s.

Competitions.

(*See Competition News, page* 643.)

Auction Sales, Tenders, etc.

MAY 2 & 3.—**Herts.**—Messrs. Joseph Hibbard & Sons will sell, at Marshmoor Mill, Herts (without reserve, by order of Messrs. Timber Operators and Contractors, Ltd.), stock of dry English timber, including 50,000 ft. cube ash and oak and various other assortments.—Auctioneers, Newington Green, Islington, N.16.

MAY 3.—**West Norwood, S.E.**—Messrs. Veryard & Yates will sell, without reserve, at 126A, Norwood-road, S.E., timber, fittings, and building materials, oak panelling and carvings. Auctioneers, 365, Norwood-road, S.E.27.

MAY 9.—**Brocton, Staffs.**—GOVERNMENT SURPLUS STORES.—Messrs. Leopold Farmer & Sons will sell, at the Central Stores Depot 375, Brocton, Staffs, £5,000,000 to £10,000,000 deal in Government surplus stores, comprising builders' plant and materials, &c. By order of Messrs. Rownson, Arew & Clydesdale, Ltd.

MAY 10.—**Isleworth.**—Messrs. Cockett & Henderson will sell (by order of the Trustees of the late Andrew Pears, deceased), at the Milford Arms Hotel, Spring-grove, Isleworth, very valuable freehold building lands, factory sites, and accommodation holdings on main London-road, Spring-grove, Isleworth. Auctioneers, 100, Jermyn-street, London, S.W.1.

Public Appointments.

✱MAY 4.—**Stowmarket.**—Foreman required by the U.D.C., for the construction of sewerage by direct labour. Mr. P. C. G. Hayward, Clerk to the Council, The Old Bank, Stowmarket.

✱MAY 9.—**Essex.**—Heating engineer required by the Essex County Council in the offices of the County Architect. Salary £300 per annum. Mr. Jno. Stuart, F.R.I.B.A., County Architect, Springfield Old Court, Chelmsford.

IMPROVEMENT OF PORTLAND CEMENT.

The following is an extract from *Chemical and Metallurgical Engineering* (New York), for March 22, 1922:—"'Not much hope for better cement.' This is the heading under which one of the leading engineering and construction journals of the country recently presented a portion of its editorial review on concrete and cement. It is unfortunate that engineers who use most of the cement in the United States should be given this impression. Certainly the chemical industries in general, and the cement industry in particular, are not prepared to admit that there is no further opportunity for improvement of Portland cement."

"The review in question acknowledged that practically all commercial supplies of cement pass the present standard specifications, and that proper use would almost invariably insure a certain strength of construction. However satisfactory this condition may be in general, it is not a welcome thing to have the added thought expressed 'that the cement makers themselves are satisfied with the present situation, and that they are more anxious to preserve the present standard specification than to get a better product.' It may be that a few in the business would be willing to take such a stand privately, but it is certain that there are in the Portland cement industry of to-day those who are not content to permit this product, good as it is, to remain indefinitely of only the present standard of value."

"Standard specifications of the sort which are now widely used for cement are certainly much more satisfactory than the many diverse specifications which were common 10 to 20 years ago. But present standards must not become a deadening influence on the industry. Progress must be maintained. And progress means continued increase in the rigidity of the specifications."

"Any industry which would accept without challenge such a charge as has been made against cement would soon find itself supplanted by newcomers in the business or by other branches of industry which would furnish substitute products. Research is essential to progress in any business, and research must and will continue regarding materials, methods and marketing of Portland cement. It is to be hoped that this criticism, which we believe is unjust, may prove an added stimulus to the industry for greater advancement."

Staff Dinner.

The directors of Messrs. Holliday & Greenwood, Ltd., entertained the staff to dinner at Gatti's Royal Adelaide Restaurant, Strand, on Wednesday last week. Mr. B. I. Greenwood, chairman of the company, presided, and was supported by the other directors. A most enjoyable evening was spent. The toast of "The Staff" was proposed by Major R. J. Holliday, M.C., who referred to the length of service of many of those present, some of whom started with the firm over 40 years ago. Mr. Farndon replied in suitable terms. "The Company" was proposed by Mr. D. A. Devlin and responded to by the chairman. A musical programme was much appreciated, and the occasion was marked by the cordial relations between the company and the staff.

Plumbing Competition.

The plumbing work sent in for competition in connection with the merit shield offered by the North of England District Council for the National Registration of Plumbers, a trophy competed for by students in plumbing classes in the north, has been adjudged, the awards being: First and Shield, Rutherford Technical College, Newcastle; Second, Darlington Technical College (previous winners of the shield); Third, Sunderland Technical College; and Fourth, Bishop Auckland Plumbing School. The judges were Mr. J. B. Wilkinson (donor of the trophy) and Mr. C. H. Bamborough, Newcastle.

PROPOSED NEW BUILDINGS & OTHER WORKS.*

In these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. Abbreviations:—T.C. for Town Council; U.D.C. for Urban District Council; R.D.C for Rural District Council; E.C. for Education Committee; B.G. for Board of Guardians; L.C.C. for London County Council; B.C. for Borough Council; and P.C. for Parish Council.

BARNSLEY.—Plans passed by U.D.C.:—Mr. Henry Ward, wash-house, 131, Doncaster-road; Mr. S. Drygen, two dwelling-houses, Spencer-street; Mr. R. J. Soper, additions to house, Salisbury-street; Messrs. Wilson & Longbottom, shed, off Canning-street; Barnsley British Co-operative Society, new branch shop, Hudderafield-road; Messrs. Hey & Pashley, timber drying shed, off Stocks-lane; Mr. A. Hirst, garage, slaughter-house and sheds, off Queen's-road. —— Plans have been approved for the erection of business premises, Silver-street, Stainforth, near Doncaster, for Mr. J. S. Porter. The architect is Mr. P. A. Hinchliffe, F.R.I.B.A., 19, St. James'-street, Sheffield.—— The plans have been approved for the erection of a new machine shop, Canning-street, Barnsley, for Messrs. Wilson & Longbottom. The architects are: Messrs. Dyson, Cawthorne & Coles, 10, Regent-street, Barnsley.——The plans have been approved for the erection of a new branch shop, Huddersfield-road, Barnsley, for the Barnsley British Co-operative Society. The architect is Mr. N. A. Whitham, Peel-square, Barnsley.——The plans have been approved for the erection of a new workshop, Stocks-lane, Barnsley, for Messrs. Hey & Pashley. The architects are Messrs. Crawshaw & Wilkinson, Regent-street, Barnsley.——The plans have been approved for the erection of 40 houses, on the Huddersfield-road site, Barnsley. The architect is the Borough Surveyor, "Fairfield House," Barnsley.

BOOTLE.—The T.C. has passed plans for five lock-up shops in Stanley-road, and for a parochial hall in Netherton-road.

BRISTOL.—The Sanitary Committee has passed plans submitted by Messrs. J. P. Sturge & Sons, on behalf of the trustees of the Redlands Chapel Estate, for the development of the estate. The plans provide for 140 houses.

BURNLEY.—An enquiry has been held by the Ministry of Health into the application of the T.C. to borrow £80,000 for gasworks purposes.

COUPAR ANGUS.—For the reconstruction of property in Commercial-street, Coupar Angus, belonging to Mr. Adam Rennie, recently destroyed by fire, the following are the contractors: J. & W. Bruce, mason work; Geo. Macdonald & Son, joiner work; John Doig & Son, plumber work; Jas. Donaldson, plaster work; all of Coupar Angus. Mr. Macdonald, architect, Blairgowrie. ROADS: For the construction of new street and roadway on Kettin's Poor Lands, Coupar Angus: Messrs. D. Reid & Son, Elmslie, Coupar Angus, are the contractors. Messrs. H. J. Bell & Co., engineers, Perth. DRAINAGE: For the construction of drainage system in connection with new tennis courts at Foxhall, Coupar Angus, J. & W. Bruce are contractors.

DARTON.—Plans of a house and shop in Church-street, Darton, for Mr. McHale, and for two houses in Parsonage-road, Darton, for T. Hollingworth & Sons, have been approved by the U.D.C.

DERBY.—Plans passed by T.C.:—Garage, Queen's Park-road, for Mr. Alderman J. A. Heaton; offices, 74, Manchester-road, for Exors. of O. Whittaker; extension of tin and copper works, Accrington-road, for Messrs. W. H. Dean & Son, Ltd.; shop front, 352, Colne-road, for Mr. R. Duxbury; corn warehouse, Colin-street, for Mr. J. Rawson; alterations, 27A, Plumbe-street, for the Burnley Miners' Social Club; additions to bungalow, Fairholme-road, for Mr. John Smith.

DUNDEE.—Plans passed by T.C.:—Esplanade, Broughty Ferry, garage, for Mrs. A. E. Stewart; Fort-street, Broughty Ferry, alterations for Alexander McLeod; Fyffe-street, shed for William Nairn; Holly-road, Broughty Ferry, garage, for James S. Baxter; Holly-road, Broughty Ferry, temporary garage, for D. Godfrey; Ward-road, alterations, for Thos. Shaw, Dundee, Ltd.

EDINBURGH.—The T.C. is promoting a Provisional Order under the Private Legislation Procedure (Scotland) Act for power to construct tramways, &c. The estimates exceed £500,000.——Plans have been before the Dean of Guild Court by the Edinburgh Exhibition Association for an exhibition hall in Annandale-street, and are under consideration.——An application by the Portobello Co-operative Society, Ltd., to erect three shops and houses at Niddric Mill, Portobello, was granted. A petition by the Assembly Rooms Trustees for alterations at the Music Hall, George-street, was continued.

ESHER.—Plans for three houses on the Torrington Lodge estate, Hare-lane, Claygate, and a plan submitted by Mr. Burdwood for a house in Claremont-road, Claygate, have been approved by the U.D.C.

FOLKESTONE.—Plans passed:—Workshop, 6, Invicta-road, by Pett Bros., on behalf of St. Dunstan's Home for Blinded Soldiers; shop and residence in Cheriton-road, Morehall, for Mr. R. J. Grayling; garage at Abbotsford School, 38, Shorncliffe-road; alterations and additions to Bute House, Riviera-road, by Mr. A. Bowles, for Mr. H. R. Kirk.

GOLDTHORPE.—The plans have been approved for the additions and alterations to the business premises of Messrs. Jas. Smith & Sons, Ltd. The architect is Mr. Thomas W. Sharpe, Lic.R.I.B.A., c.o. Messrs. Jas. Smith & Sons, Ltd., Dewsbury.

HOVE.—Plans passed by T.C.: Messrs. Albery & Lawrence, for Mr. H. Hoyne Fox, conversion into two flats, 12, Selborne-road; Messrs. J. H. Hackman, Ltd., for Miss Strong, addition, 28, Western-road; Messrs. W. Willett, Ltd., for Mrs. Lurcott, conversion into flats, 1, King's-gardens, Kingsway; Messrs. Gates & Sons, for Mr. J. Cohen, bathroom, 12, St. Leonard's-avenue; Messrs. W. Willett, Ltd., for Mr. N. Carr, alterations, 16, Wilbury-grove; Lloyds Bank Ltd., alterations, 216, Church-road; Messrs. T. Garrett & Son, for Mr. T. Harrington, additions "Belmont," Avondale-road; Messrs. Penty & Farrar, for Mr. B. Cook, conversion into flats, 14, Adelaide-crescent; Mr. J. M. Cole, greenhouse, 2, Westbourne-terrace, Kingsway; Messrs. J. Parsons & Sons, alterations, 146, Church-road; Mr. G. Taverner, for the Lightfoot Refrigeration Co., Ltd., motor garage, Holland-road Ice Works; Mr. E. Hayden, conservatory, 61, Worcester-villas; Mr. W. T. Hawker, for Mr. J. Montgomery, bungalow, New Church-road (north side); Mr. B. James, for Mr. W. Read, conversion into flats, 2, Walsingham-terrace, Kingsway; Mrs. B. James, for Mrs. Windsor, motor garage, "Ellesmere," New Church-road; Mr. J. G. Gibbins, for Mr. J. Baird, addition, 195, Church-road; Mr. C. E. Fry, proposed bungalow and motor garage, Norman-road (west side); Mr. W. H. Overton, for Mr. W. Wilson-Rae, conversion into flats, 22, Brunswick-square; Mr. J. H. Hayden, conservatory, 29, Poynter-road (rear of); Mr. A. C. Houston, conversion into flats, 25, Salisbury-road; Mr. B. H. Dixon, conversion into flats, 22, Norton-road; Messrs. J. Parsons & Sons, for Mr. S. J. Massey, detached house, Pembroke-gardens (west side); Messrs. T. Garrett & Son, for Mr. M. P. Stoneham, alterations, 22A, St. John's-road; Mr. A. Farley, for The World's Stores, Ltd., new shop front, 16, George-street.

KEIGHLEY.—Plans passed by R.D.C.: Two bungalows, Bradford-road, Riddlesden, for Mr. G. Shepherd; houses, Bradford-road, Riddlesden, for Messrs. W. & H. Whitaker; garage at Brown Mead, Riddlesden, for Mr. James Crabtree.

KETTERING.—Plans passed by the U.D.C.: House, Headlands, for Mrs. A. Webb; alterations to coffee-tavern, Dalkeith-place, for Mr. R. H. Tarry; bay-window, Rockingham-road, for Mr. H. E. Hodson; underground petrol-tanks, Dalkeith-place, for Central Motor Garage Co., Ltd.; motor shed, Salisbury-street, for Mr. H. Bosworth; hut, Wicksteed Park, for Mr. Masters.

LEAMINGTON.—Plans passed by T.C.: Motor-house, St. George's-road, for Mr. Bonniksen; alterations and additions to warehouse, Warwick-street, for Messrs. Grimbly Hughes; shop front, 160, The Parade, for Messrs. Lipton, Ltd.; club room at the Somerville Arms, Campion-terrace, for Messrs. Lucas & Co., Ltd.; additions, 12, George-street, for Mr. J. P. Emersley; and motor house, Gordon-street, for Mr. G. Day.

LONDON (BERMONDSEY).—Plans passed by B.C.: Drainage, at 13, Galleywall-road, Messrs. W. J. Dixon & Son, for Messrs. Shuttleworth & Co.; drainage, "Horseshoe" public house, Tower Bridge-road, Messrs. Sutton & Dudley, for Messrs. Huggins & Co.; store, 50, Larnace-street, for Mr. W. J. Coughtrey.

LONDON (CAMBERWELL).—Drainage plans passed by B.C.: At 89, Burbage-road, for Messrs. Cook & Co.; at 22 and 24, Acorn-street, for Mr. Wilcox; at 81, 83, 85, 93, 111 and 113, Peckham Park-road, for Mr. Heal; at 7, Cantire-road, for Mr. Clark; at 8 and 10, Astbury-road, for Messrs. Marshall, Chalk & Co.; at 7, Cunard-street, for Mr. Hutchinson; at 73 and 15, Dovercourt-road, for McColloch Bros.; at 109, Peckham Park-road, for Mr. Keep; at Cooper & Budd's premises, McDermott-road, for Messrs. Champion & Son; at 22–34, Dulwich Village, for Mr. Williams.

LONDON (CITY).—The licensing justices have sanctioned plans for rebuilding the "Bell," 12, Basinghall-street, and for proposed alterations in the following houses:—"Weavers' Arms," 42, Aldermanbury; "Elephant," 119, Fenchurch-street; "Pea Hen," Bishopsgate; "King of Denmark," Old Bailey; and the "Salisbury Arms," Camomile-street.

LONDON (HACKNEY).—Garage, Clapton-terrace-mews, for Mr. G. J. Clarke; alterations, 2 Springfield, for Messrs. Sabey & Son. Drainage plans: At 20, King Edward's-road, for Mr. G. Butters; at 72, Paragon-road, for Mr. T. J. W. Lomas; at 32, Downs Park-road, for Messrs. W. H. Perren & Son; at 22 and 24, Morning-lane, for Mr. F. Burdock; at 30, Castlewood-road, for Messrs. R. Brown Bros.; at 18, 20 and 22, Norcott-road, for Mr. T. F. Dobell; at 65, Clapton Common, for Mr. F. Bull; at 41, Darenth-road, for Mr. R. H. Wright; at 26, Pembury-road, for Mr. A. Rita; at 143, 145, and 147, Clarence-road, for Messrs. R. Brown Bros.

LONDON (HOLBORN).—A site, bounded by Gower-street, Keppel-street and Malet-street, adjoining and reserved by the Government for the University of London's new buildings, has been acquired by the Rockefeller Foundation for the proposed new School of Hygiene in Bloomsbury. It includes a residential hostel for Bourne & Hollingsworth's employees, the Royal Academy of Dramatic Art, and a number of private houses. Several months ago the Ministry of Health accepted an offer of £400,000 from the Rockefeller Foundation towards the establishment of a hygiene institute, and it was then stated that the cost of maintaining and staffing the school would be £25,000 a year for the first few years.

LONDON (LEWISHAM).—Additions to biscuit works, Staplehurst-road, for Messrs. J. W. Faulkner.

LONDON (TILBURY).—Great improvements are foreshadowed in a scheme of the Port of London Authority, involving an estimated expenditure of nearly £1,000,000, for the special purpose of providing further facilities for passenger traffic at Tilbury and constructing a jetty 2,000 ft. long and 80 ft. wide. The project, which has received the sanction of a Parliamentary Committee, is part of the original programme of the Authority involving in all an expenditure of £10,250,000. A two-story jetty was part of the scheme, and this has been completed. It is now the intention to go further down the river and construct a floating stage connected with the shore by two main bridges—one at the east end and one at the west end—for the use of passengers, who would be brought direct to it by the liner, without, as at present, having to transfer to a tender in mid-stream or go into dock.

LONDON (WANDSWORTH).—Plans passed by B.C.: Mr. W. G. Blewett, redrainage, 26, Greyhound-lane, Streatham; Messrs. J. Nash & Sons, Institute, Pirbright-road, Southfield; Mr. E. Stevens, redrainage, 9 to 25, Smeaton-road, Southfield; Mr. W. F. Goodchild; drains, 185, Bedford Hill, Balham; Messrs. Sampson & Hutchcroft, redrainage, 450 and 452, Merton-road, Southfield; Messrs. Leslie & Co., Ltd. (i) houses (blocks 49, 50, 51 and 67), in Putney Park-lane, Hawkesbury-road and Pleasance-road, Putney; (ii) Council School, Huntingfield-road, Rochampton Estate, Putney; Messrs. Burge & Berry, redrainage, 33, Eglantine-road, Fairfield; Mr. H. W. T. Richards, conversion into flats, 25, Christchurch-road, Streatham; Messrs. Richards-Stone, Ltd., redrainage, 6 and 8, Defoe-road, Tooting; Mr. G. Russell, redrainage, 29, Franciscan-road, Tooting; Mr. S. F. Farley, two shops (108 and 100) Tooting Bec-road, Balham; Mr. H. Skinner, shop, 71, Sedleigh-road, Southfield Mr. H. Frost, garage, Brodrick-road, Springfield; Mr. E. Frost, redrainage, 10 and 12, Sandown-place, Fairfield; Mr. J. Knight, addition, 18, Bramcote-road, Putney; Mr. W. F. Ferne, redrainage, 14, Oxford-road, Putney; Messrs. Harwood & Co., alterations, 378, Upper Richmond-road, Putney; Messrs. Watney, Coombe, Reid & Co., sanitary improvements, "Gloucester Arms," Larkhall-lane, Clapham North; Mr. J. G. Tozer, redrainage, 56 and 58, Sefton-street, Putney; Messrs. J. Walker & Son, redrainage, 46, Leigham Court-road, Streatham; Messrs. Snelling & Rayment, redrainage, 486, Streatham High-road; Messrs. Oakley, Ltd., redrainage, 94 and 96, High-street, Putney.

LOWESTOFT.—Plans passed by T.C.: Messrs. Turner Bros., for stable, cart shed, &c., Granville-road; Mr. C. H. Jones, for bacon curing house, &c., Burton-street; Messrs. Tuttle & Sons, Ltd., alterations, London-road North; Mr. A. Fuller, shed, St. Quentin, Chestnut-avenue; Mr. J. Chenery, lock-up shop, Beckham-road; Mr. W. J. Boyce, dwelling-house, Beccles-road; Mr. L. L. Porter, pair of cottages, Carlton-road; Mrs. Alexander, bungalow, Colville-road, Oulton Broad; Mrs. M. Culling, dwelling house, Sussex-road; Mrs. B. Hutchings, lock-up shop, South-well-road; Mr. R. Sewell, dwelling-house, The Avenue; Mr. F. Chipperfield, alterations to stable and store, Summer-road.

MAIDSTONE.—Plans passed by T.C.: Loose-road, bungalow, for Mr. W. G. Russell; High-street, additions to Carlton Café, for Mr. F. Byner; Buckland-hill, two houses, for Messrs. Clarke & Epps, Tonbridge-road, two bungalows with basements, for Mr. R. Lawrence; Romney-place, warehouse and garage with flat over, for Mr. John Arkcoll; Arundel-street, additions to No. 1, for Mr. D. G. Parks; Springfield Mill grounds, bungalow, for Mr. M. Balston: Tonbridge-road dairy, for Mr. W. G. Acott; and Albert-street, building, for Mr. G. Lock.

MANCHESTER.—The contracts for the laying of the first section of the fourth pipe-line from Thirlmere, in the Lake District, to Manchester, have just been placed. The cost of the work, which is to be undertaken by the Corporation in order further to augment their water supply from the Lakes, will be well over £1,000,000.

MATLOCK.—Mr. Cross, Inspector of the Ministry of Health, has held an inquiry into the progress of the local sewerage scheme with a view to expediting its completion. The work has been in hand about seven years, and so far £50,000 has been expended. The estimated probable cost is £80,000, of which Matlock will receive the charges from the other districts. The scheme includes an electricity plant from which it is hoped to be able to give surplus for lighting parts of the district.

MEXBRO'.—The plans have been approved for the rebuilding, after fire, of the Hope Institute and Club, Mexbro.' The architect is Mr. P. A. Hinchliffe, F.R.I.B.A., 14, Regent-street, Barnsley, and 19, St. James'-street, Sheffield.

PRESTON.—Plans passed by T.C.: Mr. T. Gardner, garage, Frenchwood-avenue; Mr. J. Higginson, garage, Warbury-street; Messrs. Arnold & Sons (Pegrams Stores), alterations, Lune-street; Mr. E. J. Andrew, offices, garage and showroom, Derby-street; Mr. E. J. Andrew, store shed, Nelson-terrace; Mr. H. Coverdale, for Mr. C. Turville-Petre, new streets, off New Hall-lane; Mr. F. Howorth, for Mr. W. Preston, new streets, off Long-lane; Mr. F. Howorth, two houses, Woodplumpton-road.

RHOS.—The Wesleyan Connexion has decided to erect a church to seat 250 persons.

SLOUGH.—Plans passed by the U.D.C.: Sheds in Belgrave-road, for Mr. W. R. Creasey; new cold store, High-street, for Mr. W. Griffin; and bungalow, Upton-road, for Mr. T. Bridger.

SOUTHEND-ON-SEA.—Plans passed by T.C.:—Conservatory, "Devon Lodge," Dundonald-drive, for A. W. Wilson; two houses, Westcliff Park-drive, for C. W. Ardley; conversion of house into shop, 8, London-road, for W. C. Iles; garage, Crescent-road, for E. J. Daunter; store shed, 133, Leigh-road, for S. Cotgrove; additions, "Brownhill," Hadleigh-road, for W. T. Eversleigh; two houses and shops, Glendale-gardens, for D. E. Kerridge; bungalow, Coleman's-avenue, for J. Richardson; house, Herschell-road, for H. Dutton; garage, "Mostyn," First-avenue, for Mr. Brackenbury; eight houses, Fairleigh-drive, for J. Snell; bay window, The Leas, for R. T. Howard; conversion of four houses into shops, Hurst Villas, Southchurch-road, for J. C. Ingram; two houses, Kingswood-chase, for J. G. Daniels; additions, rear of 99, West-road, for F. A. Hughes; conservatory, First-avenue, for W. H. Knight;

* See also our List of Contracts, Competitions, etc.

two bungalows, Crossfield-road, for A. Paston; two bungalows, Glenberrvie-drive, for T. W. Lucas; nine houses, Shorefield-gardens, for J. Marsland; two houses and garages, London-road, for A. W. Osborne; conservatory, Westborough-road, for P. & D. Barham; additions, 98, Hamlet Court-road, for R. Havens; four houses, Swanage-road, for A. Perry; one bungalow, Nelson-road, for W. Back; one bungalow, Acacia-drive, for Mr. Braithwaite; additions to garage, 29, The Strand, Southchurch-road, for W. Price & Son; additions, "Homestead," Victoria-avenue, for W. Wallace; five houses, Burges-road, for C. Matthews; one house, Tyrone-road, for J. Wilson; one bungalow, Lansdowne-avenue, for M. Kempen; house, Inverness-avenue, for C. R. Saunders; bungalow, Acacia-drive, for Mrs. M. F. David; garage, 15, Macdonald-avenue, for R. Havens; garage, Fairleigh-drive, for W. H. Bolton; two houses, Fairleigh-drive, for G. Spurgeon; two houses, Marine-avenue, for A. Butt; additions, "Heston," Cliffsea-grove, for Mr. Boyst; seven houses, Chadwick-road, for A. J. Cross; house, Crowstone-road S., for L. H. Floate; garage, "Mud End," Lansdowne-avenue, for W. L. Rollings; two houses, Eastwood-road, for W. Robinson; bungalow, Underwood-square, for J. R. Marshall; two flats, Westborough-road, for A. Rogers; bungalow, Nelson-road, for E. A. Broughton; bungalow, Honiton-road, for Mrs. E. Toynton; conversion of house into two shops, 555, London-road, for E. J. Simons; store, "Joki," Northview-drive, for J. Freeman; additions, 35, Sutton-road, for J. W. Westwood; additions to shop, 118, South-avenue, for R. Burgess; bungalow, Fairfax-drive, for W. C. Ginn; additions, 113, Hamlet Court-road, for M. Longman; alterations and additions, St. Helen's-road, for Fogdens, Ltd.; conversion of warehouse into shop, Wenham-drive, for G. E. Wells; two lock-up shops, Pleasant-road, for Primitive Methodist Home of Rest; additions, The Esplanade, Westcliff, for J. Gaillard; five shops, Station-road, Westcliff, corner of San Remo Parade, for F. A. & E. J. Ramuz; six shops, Station-road, Westcliff, corner of Palmerston-road, for F. A. Ramuz; conversion of workshop into two houses and shops, London-road, for R. H. Pennell; alterations and additions, "Lothian House," Park-crescent, for Mrs. C. N. Wall.

STAINFORTH.—The plans have been approved for the erection of a new house and business premises, Church-road, Stainforth, near Doncaster. The architect is Mr. P. A. Hinchliffe, 19, St. James'-street, Sheffield.——The plans have been approved for the erection of a large shop, Silver-street, Stainforth, near Doncaster, for Messrs. Barnes Bros. The architect is Mr. P. A. Hinchliffe, F.R.I.B.A., 14, Regent-street, Barnsley, and 19, St. James'-street, Sheffield.——The plans have been approved by the Thorne U.D.C. and also by the County Hall, Wakefield, for the erection of a new cinema, at Stainforth, near Doncaster. The architects are Messrs. Hopkinson & Co., Bridge-street, Worksop.

SWANSEA.—Plans passed by T.C.: Welsh Baptist Church, Cecil-street, Mansetton, for the Rev. Hermas Evans; two houses, Swansea-road, Dunvant, for Messrs. C. Cole and W. Nicholas; additions, 4, Springfield Gardens, Mynyddbach, for Mr. J. T. Morgan; wash-house, Neath-road, Peniel Green, for Mr. T. Hall; bungalow, Hendrefollan-road, Sketty, for Mr. Daniel Williams; garage, Llanllienwen-road, Moriston, for Mr. George Rowe; bungalow, Bayswater-road, Sketty, for Mr. S. Spring; bungalow, Bayswater-road, Sketty, for Mr. W. S. Squires; bay window, Limeslade Bay, for Mr. T. Roderick; garage, 15, Aylesbury-road, Brynmill, for Mr. W. Harding; alterations and additions, 212, Oxford-street, for Mr. H. A. Leak; two houses, Oystermouth-road, Blackpill, for Mr. James Harris; store, Neath-road, Landore, for Messrs. Watts Brothers; workshop, Armine-road, Fforestfach, for Mr. T. M. Jones; additions, 4, Vicarage-terrace, St. Thomas, for Messrs. S. Edwards; lavatory accommodation, 8, College-street, for Mr. Sidney Heath; workshop, 39 and 40, Malvern-terrace, Brynmill, for Messrs. Linnard Brothers; one house, 22, Bryn-street, Bryn-hyfryd, for Mr. Phillip Francis; building, 22, Wind-street, for Messrs. Dann & Co.; one house, Cwmbath-road, Morriston, for Mr. James Knoyle; additions, 2, Castle-street, Mumbles, for Mr. Arthur Jones; additions, 32, Approach-road, Manselton, for Mr. George Weaver; six houses, Hadland-terrace, West Cross, for Mr. A. Beer; garage, Hazlemere-road, Coedsaeson, for Mr. Llewelyn Thomas; one house, Carmarthen-road, Cockett, for Mr. J. W. Davies; shop front, 14, Uplands-crescent, for Mr. C. Green; additions, "Summerland," Caswell, for Miss C. M. Davies; additions, 19, Vivian-road, Sketty, for Mr. D. Matthews; bungalow, Hendrefollan-road, for Mr. J. E. Owen.

WORKINGTON.—A scheme has been prepared for the development of Workington Dock. It will cost from two to two and a half million pounds. The scheme, says the *Cumberland Evening Mail*, has already the recommendation of the advisory trade committee, and is only awaiting the sanction of the Treasury.

FIRES.

BOGNOR.—Great damage has been done by fire to the Peacock Bakeries in High-street and Bedford-street.

COWDENBEATH.—Fire broke out at No. 11, Pit, Lumphinnans Colliery, and caused damage estimated at £2,500 to the scaffolding and giggering machine in the pit.

DONCASTER.—Damage to the extent of several thousand pounds has been caused by a fire at Edenthorpe Hall, a well-known Yorkshire mansion a few miles from Doncaster. The mansion formerly belonged to Earl Fitzwilliam, but had lately been sold, and was untenanted. Edenthorpe Hall was for many years the residence of the late Lord Auckland.

PAISLEY.—An outbreak of fire in the engineering workshop of Messrs. Campbell & Calderwood, Murray-street, Paisley, resulted in damage estimated at about £5,000.

STOWMARKET.—Extensive damage has been done by fire to the premises of Messrs. Cooper & Cooper, seed cleaners.

YARROW.—The kirk has been destroyed by fire.

TRADE NEWS.

The Industrial Publicity Bureau announce that they have transferred their offices from Cardiff to 40, Bennett's-hill, Birmingham, which will be the permanent headquarters.

The portable conveyor manufactured by Messrs. Winget, Ltd. (London), is of the adjustable type, and consists of an endless belt, carried by two driving drums, one of which also tightens the belt as necessary A series of free rollers, placed at intervals, act as guides for the belt, and at the same time raises its edges in such a way as to give it a trough shape, thus keeping the materials in the centre of the belt. The framework is of lattice girder construction, which has the great advantage of combining lightness with the maximum of rigidity. This framework is mounted on an underframe designed for easy adjustment.

Messrs. L. M. Waterhouse Electric Co. (19, Rathbone-place, London, W.), forward us details of their new surflex wiring system, which has been introduced to meet the present-day requirements of economical yet efficient wiring. This was designed by Mr. L. M. Waterhouse, who was responsible for the design and introduction of the Simplex Conduit System, and who, for the past twenty-three years and until quite recently, was managing director and engineer to Simplex Conduits, Limited.

A large number of the steel-framed concrete buildings, fittings, &c., which formed the North Camp of the two military camps at Ripon during the war have been purchased for removal by Messrs. Haigh Wilson & Co., Newcastle-on-Tyne, from the Disposals Board, and dismantling operations, which will provide occupation for a large number of workers for a considerable period, have already begun.

We have received a pamphlet from the Sussex Brick & Estates Co. Ltd., 52, North-street, Horsham, Sussex, giving interesting results of tests of the firm's vitrified engineering brick.

The Directors of Bell's United Asbestos Co. Ltd. (London), after providing for Income Tax and Corporation Profits Tax, recommend to the shareholders at the general meeting to be held on May 11th, 1922, the payment of a balance dividend of 1s. 6d. per share on the ordinary shares, which, with the interim dividend paid in October last, makes a total distribution of 10 per cent. for the year. The amount to be placed to reserve is £8,000, and the amount to be carried forward is £34,013 9s. 1d.

Messrs. J. H. Tucker & Co., Ltd., of King's-road, Tyseley, Birmingham, announce that from Monday next, May 1, their London offices and stores will be removed from 217, Shaftesbury-avenue to 101, Dean-street, W. 1. In addition to greatly increased stock accommodation, the new premises will provide showrooms in which a display of "Tucker" accessories, ironclad gear, and switch gear will be shown, as well as demonstrations of the many different controls available by the use of different types of "Tucker" switches.

Economic Rents.

The Scottish National Housing and Town-Planning Congress on Friday last, in Glasgow, called on the Government to fix an economic rent for State-aided working-class houses, and to arrange a periodical review of these rents.

Town-Planning at Elland.

Mr. Benson Greenall, an Inspector from the Ministry of Health, conducted an inquiry at Elland last week into an application by the Urban authority for approval of a preliminary statement of proposals for the development of a town-planning scheme. There was no opposition to the general principles, though some criticism and suggested improvements were offered by the representatives of four local property owners.

THE INSTITUTE OF CLAYWORKERS.

Visit to Pillinge Brick Works.

THE President and members of the Institute of Clayworkers accepted the invitation of Messrs. B. J. Forder & Son, Ltd., to visit their Pillinge Brick Works on Tuesday last, when the party was given facilities for the inspection of the whole works, and the complete process of brickmaking from the digging of the clay to the finished article.

After making a round of the plant, the visitors, numbering about 130, assembled in the Institute where they partook of a lunch, presided over by Mr. P. M. Stewart, J.P., O.B.E., Managing Director of Messrs. B. J. Forder & Son, Ltd.

Mr. H. J. C. Johnston (Leeds), President of the Institute of Clayworkers, in proposing a vote of thanks to Messrs. Forder & Son, said that the Pillinge Brick Works were the largest in Great Britain and Ireland, he did not know whether they had any larger ones in America! What impressed him most was the class of workmen and the good feeling which existed between them and their employers.

Major Hill, in seconding the vote of thanks, said that in America it was the practice to turn out a certain quantity of bricks and then close down the works until it was time to make again. There the workmen were of a different class and were treated differently from those over here. In this country they wanted to treat their employees in such a way that they would wish to stay with them throughout their working existence.

In supporting, Alderman Parry said they were passing through a very uncomfortable period in not getting so much work out of their employees as in former times. He congratulated Mr. Stewart on the general arrangement of his works, where everything was being done to save expense, and at the same time to gain the greatest benefit. There was a bright future before them and he did not think they should throw their bricks upon the market at a loss. His advice was to hold on to stocks until trade revived.

The vote was carried with musical honours, to which Mr. P. M. Stewart responded. He said when the war closed the works were almost ruined, even the roofs were in. They borrowed machinery everywhere they could, and when the tide turned, they did not know how they were going to keep going. Since then every machine had been reconstructed, and the old steam plant had been scrapped in favour of gas engines, which had resulted in a considerable saving on the first year's working. They had tried to overcome the greatest difficulty of the clay-maker—climatic conditions—and had endeavoured to get an efficiency which was equally high in summer and winter. They were passing through a difficult phase, and he did not anticipate that they would see a good time until the general position in industry was more settled and satisfactory. As long as there was such enormous taxation there was no likelihood of seeing anything like prosperity.

Votes of thanks to the staff of the firm and the officials of the Institute, for the excellent arrangements made for the visit, were passed by acclamation.

Obituary.

The death is recorded of Mr. Arthur Jones, contractor, Wynns House, Pontypridd. The deceased gentleman succeeded his father, the late Mr. Thomas Jones, in the business. He was forty years of age and leaves a widow and two children.

The death is announced of Mr. Arthur Richard John, of Dowanlas, Mountain Ash, son of the late Mr. John John, a well-known Aberdare Valley builder and contractor, who was himself in the building trade. Lately he had acted as head of the Government Public Works Dept. in Sangeo, E. Africa, and his death occurred at Sangeo, E. Africa, on March 23.

PRICES CURRENT OF MATERIALS.*

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry. Since our last issue several prices have been revised.—Ed.]

BRICKS, &c.

	£ s. d.
Per 1,000 Alongside, in River Thames up to London Bridge.	
Best Stocks	4 2 0
Per 1000, Delivered at London Goods Stations.	
Flettons, at	£ s. d.
King's Cross	3 5 0
Do. grooved for plaster	3 7 0
Do. Bullnose	4 0 0
Best Stourbridge Fire bricks:—	
2½ in.	11 3 0
3 in.	13 2 0
GLAZED BRICKS—	
Best White, Ivory, and Salt Glazed Stretchers	24 0 0
Headers	23 10 0
Quoins, Bullnose and 4½in. Flats	30 10 0
Best Blue Pressed Staffs.	10 1 6
Do. Bullnose	10 11 6
Blue Wire Cuts	8 1 6
D'ble Str'tch'rs	32 10 0
D'ble Headers	29 10 0
One Side and two Ends	33 10 0
Two Sides and one End	34 10 0
Splays and Squints	32 0 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours, Hard Glaze, £5 10s. extra over white.

	s. d.		
Thames Ballast	14 0	per yard,	delivered 2 miles radius Paddington.
Pit Sand	17 0	„ „	
Thames Sand	19 0	„ „	
Best Washed Sand	19 0	„ „	
¾ in. Shingle for Ferro-Concrete	19 0	„ „	
¼ in. „ „	20 0	„ „	

Per ton delivered in London area in full van loads.

	£ s. d.	£ s. d.
Best Portland Cement. British Standard Specification Test	3 10 6	3 16 0

63/6 alongside at Vauxhall in 80-ton lots.

Ferrocrete per ton extra on above	10 0

NOTE.—The sacks are charged at 1s. 9d. each and credited at 1s. 6d. each if returned in good condition within three months, carriage paid.

Best Ground Blue Lias Lime 2 8 0 at rly. depot.
Grey Stone Lime 61s. 0d. per ton delivered in City and Central districts.
Stourbridge Fireclay in s'cks 37s. 8d. per ton at rly. dpt.

STONE.

	s. d.
BATH STONE—delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R.. per ft. cube	3 2½
Do. do. delivered in railway trucks at Nine Elms, L. & S.W.R.. per ft. cube	3 5½
Do. do. delivered on road wagons at Nine Elms Depot	3 6½
PORTLAND STONE—	
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, L.& S.W.R., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube	4 11½
Do. do. delivered on road wagons at above stations, per ft. cube	5 0½
White basebed, 3d. per ft. cube extra.	

NOTE.—½d. ft. cube extra for every foot over 20 ft. *average*, and ½d. beyond 30 ft.

	s. d.
YORK STONE, BLUE—*Robin Hood Quality.* Delivered at any Goods Station London.	
6 in. sawn two sides landings to sizes (under 30 ft. super.) Per Ft. Super	6 1½
6 in. rubbed two sides, ditto	„ 6 7½
3 in. sawn two sides slabs (random sizes)	„ 2 7
2 in. to 2½ in. sawn one side slabs (random sizes)	„ 1 8
1½ in. to 2 in. ditto, ditto	„ 1 5
HARD YORK— Delivered at any Goods Station London.	
Scappled random blocks Per Ft. Cube	7 6
6 in. sawn two sides landing to sizes (under 40ft. super.) Per Ft. Super	6 6
6 in. rubbed two sides ditto	„ 7 2
4 in. sawn two sides slabs (random sizes)	„ 3 4
3 in. ditto, ditto	„ 2 10
2 in. self-faced random flags Per Yard Super	9 9

WOOD.

GOOD BUILDING DEAL.

Inches	£ s.	
4 × 11	36 0	per standard
4 × 9	35 0	„
4 × 8	30 0	„
4 × 7	30 0	„
3 × 8	30 0	„
3 × 7	25 0	„
2½ × 7	25 0	„
3 × 6	25 0	„
3 × 11	34 0	„
2 × 11	32 0	„
3 × 9	30 0	„
2½ × 9	30 0	„
3 × 4½	20 10	„
3 × 4	20 10	„

PLANED BOARDS.

1 × 11	42 10	„
1 × 9	37 10	„

PLAIN EDGE FLOORING.

Inches		
½	20/-	per square
¾	22/6	„
1	25/-	„
1¼	32/6	„
1½	44/-	„

TONGUED AND GROOVED FLOORING.

Inches		
1	25/-	per square
1¼	32/6	„
1½	44/-	„

WOOD (*Continued*).

MATCHINGS (BEST).

Inches		
½	17/6	per square
¾	22/6	„
1	25/-	„

Inches	BATTENS.	s. d.	
½ × 2		3 0	per 100 ft.

SAWN LATHS.

Per bundle	0 4 0

Dry Wainscot Oak, per ft. super, as inch	0 2 6	to	0 3 0	
½ in. do. do.	0 1 10½	to	0 2 6	
Dry Mahogany—Honduras, Tabasco, African, per ft. super, as inch	0 2 3	to	0 3 0	
Cuba Mahogany	0 3 6	to	0 4 0	
Teak (Rangoon, Moulmein or Java), per load	52 10 0	to	55 0 0	
American Whitewood planks, per ft. cube	0 16 0	to	0 18 0	
Best Scotch Glue, per cwt.	7 2 0	to	—	
Liquid Glue, per cwt.	4 18 0	to	6 0 0	

SLATES.

1st quality slates from Bangor or Portmadoc in truck load delivered London area. Per 1,000 of 1,200.

		£ s. d.
Best Blue Bangor Slates,	24 by 12	46 10 0
„ „ „	22 by 12	42 5 0
First quality „ „	22 by 11	39 0 0
„ „ „	20 by 12	37 2 6
Best Blue Portmadoc	20 by 10	31 15 0
„ „	18 by 10	26 5 0
First quality „	18 by 9	23 2 6
„ „	16 by 10	22 0 0
„ „	16 by 8	17 2 6

TILES.

	Per 1,000 f.o.r. London. £ s. d.
Best machine-made tiles from Broseley or Staffordshire district	7 0 0
Ditto hand-made ditto	7 15 0
Ornamental ditto	8 0 0
Hip and valley tiles (per dozen)	0 12 0

METALS.

JOISTS, GIRDERS, &C., TO LONDON STATION PER TON—	£ s. d.
R. S. Joists, cut and fitted	14 10 0
Plain Compound Girders	16 10 0
„ „ Stanchions	18 0 0
In Roof Work	22 0 0

WROUGHT IRON TUBES AND FITTINGS—
(Discount off List for lot of not less than £15 net value delivered direct from Works. 5 per cent. less above gross discounts, carriage forward if sent from London Stocks.)

	Tubes. (all sizes).	Fittings. Up to 2″.	Fittings. Over 2″.	Flanges. Up to 2″.	Flanges. Over 2″
Gas	55 %	50 %	55 %	60 %	65 %
Water	50 %	45 %	50 %	55 %	60 %
Steam	45 %	40 %	45 %	50 %	55 %
Galv'd—					
Gas	45 %	42½%	47½%	52½%	57½%
Water	37½%	37½%	42½%	47½%	52½%
Steam	27½%	32½%	37½%	42½%	47½%

L.C.C. COATED SOIL PIPES—London Prices ex works.

	Pipe. s. d.	Bends, stock angles. s. d.	Branches, stock angles. s. d.
2 in. per yd. in 6fts plain	3 10½	3 4	4 0
2½ in. „	4 8	3 8	5 0
3 in. „	5 6½	4 0	6 0
3½ in. „	6 1	5 0	7 0
4 in. „	6 10½	5 8	8 0

RAIN-WATER PIPES, &C.

	Pipe. s. d.	Bends, stock angles. s. d.	Branches, stock angles. s. d.
2 in. per yd. in 6fts. plain	2 6½	2 0	2 8
2½ in. „ „	2 9½	2 4	3 2½
3 in. „ „	3 4½	2 10	4 3
3½ in. „ „	4 0	3 4	5 0
4 in. „ „	4 6	4 1½	6 1

L.C.C. DRAIN PIPES.—9 ft. lengths. London Prices per yd.: 4 in., 5/9. .. 5 in., 7/2. .. 6 in., 8/9.

	Per ton in London. £ s. d.		£ s. d.
IRON—			
Common Bars	13 10 0	to	14 10 0
Staffordshire Crown Bars good merchant quality	14 10 0	..	15 10 0
Staffordshire "Marked Bars"	17 10 0	..	18 10 0
Mild Steel Bars	12 10 0	..	13 10 0
Steel Bars. Ferro-Concrete quality, basis price	12 10 0	..	13 10 0
Hoop Iron, basis price	17 0 0	..	18 0 0
„ „ Galvanised	31 0 0	..	33 0 0
Soft Steel Sheets, Black—			
Ordinary sizes to 20 g.	15 0 0	..	16 0 0
„ „ „ 24 g.	16 0 0	..	17 0 0
„ „ „ 26 g.	17 10 0	..	19 10 0
Sheets Flat Best Soft Steel, C.R. & C.A. quality—			
Ordinary sizes, 6ft. by 2ft. to 3ft. to 20 g.	21 0 0	..	22 0 0
Ordinary sizes, 6ft. by 2ft. to 3ft. to 22 g. and 24 g.	22 0 0	..	23 0 0
Ordinary sizes, 6ft. by 2ft. to 3ft. to 26 g.	24 0 0	..	26 0 0
Flat and Galvanised Corrugated Sheets—			
Ordinary sizes, 6 ft. to 9ft. 20 g.	21 10 0	..	22 10 0
Ordinary sizes, 6ft. to 9ft. 22 g. and 24 g.	22 0 0	..	23 0 0
Ordinary sizes, 6ft. to 9ft. 26 g.	24 0 0	..	25 0 0

METALS (*Continued*).

	Per ton in London. £ s. d.		£ s. d.
Sheets Galvanised Flat, Best quality—			
Best Soft Steel Sheets, 6ft. by 2ft. to 3ft. to 20g. and thicker	27 0 0	..	28 0 0
Best Soft Steel Sheets, 22 g. and 24 g.	28 0 0	..	29 0 0
Best Soft Steel Sheets, 26 g.	30 0 0	..	31 0 0
Cut Nails, 3in. to 6in. (under 3in. usual trade extras.)	24 10 0	..	25 10 0

METAL WINDOWS—Standard sizes suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1/7 to 1/10 per foot super.

LEAD, &c.

	Delivered in London. £ s. d.		
LEAD—Sheet, English, 4 lb. and up	35 0 0	..	—
Pipe in coils	35 10 0	..	—
Soil Pipe	38 0 0	..	—
Compo pipe	39 0 0	..	—

NOTE—Country delivery, 30s. per ton extra; lots under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 2s. cwt. extra.

Old lead, ex London area, at Mills per ton	20 0 0	..	—
Do., ex country, carriage forward per ton	21 0 0	..	—
COPPER—			
Strong Sheet per lb.	0 2 3	..	—
Thin „ „	0 2 4	..	—
Copper nails „	0 2 3	..	—
Copper wire „	0 2 4	..	—
TIN—English Ingots „	0 1 9	..	—
SOLDER—Plumbers' „	0 0 10	..	—
Tinmen's „	0 1 0	..	—
Blowpipe „	0 1 3	..	—

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES AND IN SQUARES IN ORDINARY SIZES.

	Per Ft.		Per Ft.
15 oz. fourths	4½d.	32 oz. fourths	9½d.
„ thirds	5½d.	„ thirds	11d.
21 „ fourths	6½d.	Obscured Sheet, 15 oz.	7d.
„ thirds	6½d.	21 „	9d.
26 „ fourths	7½d.	Fluted and Enamelled 15 „	11d
„ thirds	8½d.	Fluted and Enamelled 21 „	1/2

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

	Per Ft.
¼ Rolled plate	4½d.
⅜ Rough rolled	6d.
½ Rough rolled	6½d.
Figured Rolled, Oxford Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish white	7d.
Ditto, tinted	9½d.
Rolled Sheet	6d.
White Rolled Cathedral	5½d.
Tinted do.	7½d.

Cast Plate is same price as rough rolled.

PAINTS, &c.

		£ s. d.
Raw Linseed Oil	in pipes per gallon	0 4 2
„ „ „	in barrels „	0 4 3
„ „ „	in drums „	0 4 5
Boiled „ „	in barrels „	0 4 7
„ „ „	in drums „	0 4 9
Turpentine	in barrels „	0 6 9
„	in drums (10 gall.) „	0 7 0
Genuine Ground English White Lead, per ton (In not less than 5 cwt. casks.)		54 5 0
GENUINE WHITE LEAD PAINT— "Father Thames," "Nine Elms," "Park," "Supremus" and other best brands (in 14 lb. tins) not less than 5 cwt. lots	per ton delivered	76 0 0
Red Lead, Dry (packages extra)	per ton	37 0 0
Best Linseed Oil Putty	per cwt.	0 17 0
Filocel	per cwt.	0 15 6
Size. X D Quality	fkn.	0 4 6

VARNISHES, &c.

	Per gallon. £ s. d.
Oak Varnish Outside	0 15 0
Fine ditto ditto	0 17 2
Fine Copal ditto	1 1 6
Pale Copal ditto	1 2 6
Pale Copal Carriage ditto	1 4 6
Best ditto ditto	1 14 6
Floor Varnish Inside	0 19 0
Fine Pale Paper ditto	0 18 0
Fine Copal Cabinet ditto	1 2 6
Fine Copal flatting ditto	1 0 6
Hard drying Oak ditto	0 18 0
Fine Hard drying Oak ditto	0 19 0
Fine Copal Varnish ditto	1 0 6
Pale ditto ditto	1 2 6
Best ditto ditto	1 14 6
Best Japan Gold Size	0 12 6
Best Black Japan	0 18 0
Oak and Mahogany Stain (water)	0 17 6
Brunswick Black	0 11 0
Berlin Black	0 16 6
Knotting (patent)	1 16 0
French and Brush Polish	1 8 0
Liquid Dryers in Terebine	0 13 6
Cuirass Black Enamel	0 7 —

* The information given on this page has been specially compiled for THE BUILDER and is copyright. Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

CURRENT PRICES FOR BUILDING WORK IN LONDON.*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	15	6
Add if in clay	" "	1	9
Add for every additional depth of 6 ft.	" "	1	0
Planking and strutting to trenches	per foot super	0	7
Do. to sides of excavation, including shoring	" "	1	2

CONCRETOR.

		s.	d.
Portland cement concrete in foundation 1 to 6 ..	per yard cube	42	0
Add if in underpinning in short lengths	" "	9	6
Add if in floors 6 in. thick	" "	3	10
Add if in beams	" "	4	9
Add if aggregate 1 : 2: 4	" "	12	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	" "	4	0

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	38	10	0
Add if in stocks	"	8	10	0
Add if in Staffordshire blues	"	25	10	0
Add if in Portland cement and sand	"	3	10	0

FACINGS.

Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	0	1¼

POINTING.

Neat flat strucks or weathered joint.....	" "	0	0	3

ARCHES.

Extra only to the price of ordinary brickwork :—				
Fair external in half brick rings	" "	0	0	11½
Axed in stocks	" "	0	1	11
Rubbed and gauged jointed in putty camber or segmental	" "	0	6	8

SUNDRIES.

Damp course in double course of slates breaking joint and bedded in Portland cement	" "	0	1	5
Setting ordinary register grates and stoves	each	1	1	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks	"	5	5	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard sup.	7	6
Three-quarter-inch vertical damp course	" "	11	8
¾ inch on flats in two thicknesses.....	" "	8	6
Angle fillet	per foot run	0	3
Skirting and fillet 6 in. high	" "	1	4

MASON.

York stone templates fixed	per foot cube	16	3
York stone sills fixed	" "	28	6
Bath stone and all labour fixed	" "	15	0
Portland stone fixed	" "	23	0

SLATER.

Welsh 16 in. × 8 in. 3 in. lap, including nails....	per square	75	0
Do. 20 in. × 10 in. Do. Do.	"	87	0
Do. 24 in. × 12 in. Do. Do.	"	90	0

CARPENTER AND JOINER.

Fir framed in plates .....per foot cube		6	6	
Do. joists	" "	7	6	
Do. roofs, floors and partitions	" "	7	6	
Do. trusses	" "	9	6	

		¾"	1"	1¼"	2"
Deal rough close boarding	per sq.	42/–	48/–	56/–	85/–

		s.	d.
Flat centering for concrete floor, including struts or hangers .. "		60	0
Do. to beams .....per ft. sup.....		1	6
Centres for arches ..... "		2	0
Gutter boards and bearers ..... "		1	3

FLOORING.

		¾"	1"	1¼"	1½"
Deal-edges shot	per sq.		49/–	58/–	67/–
Do. tongued and grooved	"		54/–	65/–	72/–
Do. matchings	"	45/–	55/–		
Moulded skirting, including backings and grounds .....per ft. sup.		1/8	2/1	2/3	2/9

SASHES AND FRAMES.

		s.	d.
One-and-a-half moulded sashes or casements	per foot super	1	11
Two Do. Do. Do.	" "	2	4½
Add for fitting and fixing	"	0	6
Deal-cased frames with 1 in. inner and outer linings, 1½ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares double hung, double hung with pulleys, lines and weights; average size.....	" "	4	6

DOORS.

		1½"	1¾"	2"
Two-panel square framed .....per ft. sup.		2/6	2/9	2/11
Four-panel Do	"	2/10	3/2	3/5
Two-panel moulded both sides	"	3/2	3/5	3/8
Four-panel Do. Do.	"	3/6	3/9	4/–

CARPENTER AND JOINER—continued.

FRAMES.

		s.	d.
Deal wrot moulded and rebated ..... per foot cube		14	6

		1"	1¼"	1½"
Plain deal jamb linings framed	per ft. sup.	1/9	1/10	2/1
Deal shelves and bearers	"	1/6	1/8	1/11
Add if cross tongued	"	2d.	2d	2d.

STAIRCASES.

	1"	1¼"	1½"	2"	2½"
Deal treads and risers in and including rough brackets	2/1	2/4	2/9	—	—
Deal strings wrot on both sides and framed	1/8	2/–	2/2	2/8	—

		s.	d.
Housings for steps and risers	each	0	11
Deal balusters, 1 in. × 1¼ in.	per ft. run.	0	9
Mahogany handrail; average 3 in. × 3 in.	" "	6	0
Add if ramped	" "	11	10
Add if wreathed	" "	23	9

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/4
Sash fasteners .....11½d.		Mortice locks	5/3
Casement fasteners	1/5	Patent spring hinges and letting in to floor and making good	19/–
Casement stays.....	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	19	0
Plain compound girders	"	22	0
Do. stanchions	"	25	0
In roof work	"	30	0

RAIN-WATER GOODS.

		3"	4"	5"	6"
Half-round plain rebated joints ..	ft. run	1/11	2/4½	3/7	4/–
Ogee Do. Do. ..	"	2/4½	3/1	3/10	4/9
Rain-water pipes with ears	"	2/9	3/7		
Extra for shoes and bends	each	4/4	5/11		
Do. stopped ends	"	1/11	2/4½	3/7	4/–
Do. nozzles for inlets	"	2/2	2/7	3/10	4/3

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	56	0
Do. Do. in flats	"	52	0
Extra labour and solder in coated cesspools	each	7	4
Welt joint	per ft. run.	0	6
Soldered seam	" "	1	10
Copper nailing	" "	0	7

	½"	¾"	1"	1½"	2"	4"
Drawn lead waste per ft. run	10d.	1/6	1/9	3/1	3/10	
Do. service "	1/5	1/11	2/3	3/6		
Do. soil "						6/2
Bends in lead pipe each					3/3	8/2
Soldered stop ends "	1/2	1/8	2/1	2/ 0	3/6	
Red lead joints .... "	11d.	1/–	1/3	1/11	2/4	4/10
Wiped soldered joints "	2/10	3/6	4/–	4/11	6/6	9/9
Lead traps and cleaning screws .....„				14/7	19/6	
Bib cocks and joints ..„	6/4	9/7	15/4	41/–		
Stop cocks and joints „	15/4	17/2	25/8	64/–		

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yard sup.	3	2
Do. Do. Sirapite	" "	3	4
Do. Do. Keen's	" "	4	7
Add sawn lathing	" "	1	8
Add metal lathing	" "	3	0
Portland cement screed	" "	2	9
Do. plain face	" "	4	6
Mouldings in plaster	per 1 girth	0	3
One-and-a-half granolithic pavings	per yard sup.	6	4

GLAZIER.

21 oz. sheet plain	per foot sup.	1	1
26 oz. Do.	" "	1	4
Obscured sheet	" "	1	8
⅛ in. rolled plate	" "	1	0
¼ in. rough rolled or cast plate	" "	1	1
¼ in. wired cast plate	" "	1	7

PAINTER.

		s	d.
Preparing and distempering, 2 coats	per yard sup	1	1
Knotting and priming	" "	0	8
Plain painting 1 coat	" "	0	11
Do. 2 coats	" "	1	8
Do. 3 coats	" "	2	5
Do. 4 coats	" "	3	2
Graining	" "	2	6
Varnishing twice	" "	2	0
Sizing	" "	0	4
Flatting	" "	0	8
Enamel	" "	1	4
Wax polishing	per foot sup.	0	10½
French polishing	" "	1	3
Preparing for and hanging paper	per piece	2/– to 4/–	

* These prices apply to *new buildings only*. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges. A percentage of 11 should be added for Employers' Liability and National Health and Unemployment Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach him not later than Tuesday evening.

***Denotes *accepted*. † Denotes *provisionally accepted*.**
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modifications*.

ALDEBURGH.—For reconstruction of Council School, for the East Suffolk County Education Committee. Mr. J. Webb, Committee's Architect, County Hall, Ipswich :—

G. R. Allen, Wickham Market	£4,174 15 6
J. Noller, Ipswich	4 163 0 0
Geo. Chandler, Woodbridge	4 125 0 10
L. J. Cundall, Ipswich	4,100 0 0
A. J. Gibbons, Ipswich	3,589 16 0
G. A. Kenney & Sons, Ipswich	3,494 0 0
Pollard & Skerritt, Ipswich	3,304 0 0
S. E. Hodge, Bury St. Edmunds	3,297 0 0
National Building Guild, Ltd., Beccles	3,290 0 0
E. Howes, Bury St. Edmunds	3,218 0 0
Frank A. Roper, Ipswich	3,148 0 6
Wm. C. Reade, Aldeburgh	3,056 0 0
A. Gibbs, Leiston	2,889 0 0
*Smyth Bros., Leiston	2,669 0 0

ALNWICK.—For erection of War Memorial of Greenlaw quarried stone on Howorth stone steps at the Column Field, for the War Memorial Committee :—

*J. G. Green & Sons, Alnwick..... £725 15

BANKFFOSFELEN.—For additions at Council School, for the Carmarthenshire C.C. Mr. W. V. Morgan, County Architect, Carmarthen :—

John Bros., Carmarthen	£1,225 0 0
Thomas Davies, Llanelly	1,200 0 0
*E. E. Richards, Kidwelly	1,108 14 0

BLAYDON.—For erection of 40 houses at Chopwell, for the U.D.C. The Surveyor, Blaydon :—

Robert D. Ramage Langholm	£31,913
Wm. Wharlton & Sons, Ryton	29,914
E. R. Davison, Blaydon	28,880
J. W. White, Sunderland	27,829
D. G. Somerville, Newcastle	25,960
Robert Southern, Dipton	26,639
National Building Guild, Manchester	20,862
*Henry Bowers, Rowlands Gill	19,790

BRIDGWATER.—For alterations to Town Hall, for the T.C. Mr. F. Parr, Borough Surveyor, Municipal Offices, High-street, Bridgwater :—

The National Building Guild, Manchester	£257 8 5
H. W. Pollard & Sons, Bridgwater	241 0 0
G. Gower, Bridgwater	235 0 0
T. Stockham & Sons, Bridgwater	229 0 0
A. Geen & Son, Bridgwater	228 0 0
C. C. Bird, Bridgwater	217 0 0
S. Palmer, Bridgwater	216 0 0
A. J. Dore, Bristol	205 0 0
*C. Bryer, Junr., Bridgwater	195 0 0

BRIERLEY HILL.—For the erection of houses, for the U.D.C. :—

*B. Whitehouse & Co., Birmingham..£715 per pair

BURY.—For erection of surgery, Walmersley-road. Mr. J. D. Mould, architect, Walmersley-road, Bury, Lancs. :—

Thos. Kenny & Son, Bury	£485
O. Elton, Bury	473
James Greenwood, Bury	448
John Smith & Sons, Bury	425
James Byrom, Bury	377
John Tinline, Bury	370
*Thompson & Brierley, Bury	365

CONISBOROUGH.—For erection and completion of public conveniences at Denaby Main, for the U.D.C. Mr. H. Thirlwall, Surveyor, Conisborough, *via* Rotherham :—

G. H. Smith & Son, Mexborough	£1,150 0 0
H. Saville, Conisborough	1,138 0 0
Firth Whittington & Co., Doncaster	1,060 0 0
Flowitt & Gilbert, Doncaster	956 0 0
H. Cooper, Maltby	920 0 0
Farrow & Moxon, Doncaster	890 15 0
Don Builders, Ltd., Doncaster	874 0 0
Jenkinson & Sons, Doncaster	857 17 4

No tender accepted. Scheme to be modified.

DARTON.—For the construction of a sewer on housing site, for the U.D.C. :—

*R. Beaumont & Co., Honley £1,213 6

DUNFERMLINE.—For plaster work of 158 houses, for the T.C. Mr. R. Muir Morton, Burgh Engineer, Dunfermline. Quantities by C. R. Douglas :—

T. Widdop, Bingley	£16,495
Peter McDonald, Dunfermline	13,495
John Lawson, Dunfermline	11,578
D. Kirk & Sons, Dunfermline	11,113
M. M. Burns, Dunfermline	11,093
Lind Bros., Lochgelly	10,899
William Robertson, Edinburgh	10,261
Jas. C. Thomson, Dunfermline	10,257
Building Guild, Ltd., Glasgow	10,115
John Walker, Alva	9,827
William Ure, Dunfermline	9,402
Peter Harle, Sunderland	8,503
‡Street & Co., Townhill	8,271

FRINTON.—For improvements to the roads, for the U.D.C. :—

*Campbell, Kenyon & Co., Acton..£3,476 12 5

GREASBOROUGH.—Erection of 12 houses, for the U.D.C. :—

*Mollekin & Sons, Maltby....£459 per house

HAVANT.—For extension of drainage system, for the U.D.C. :—

*E. E. Jeavons & Co., Dudley Point.. £2,200

H.M. OFFICE OF WORKS (Accepted during March) :—

Building Works, etc. : British Museum—Plastering : Hoad & Co., London, N.W. Cardiff Custom House—Alterations, &c. : Roberts (Birmingham), Ltd., Birmingham. Congleton houses—Plastering : Brammar & Patrick, Hanley. Coventry Sorting Office—Felt roofing : J. Hewitson, Bilston. Eastbourne Post Office—Steelwork : Stableford & Co., Ltd., London, S.W. Edinburgh Sorting Office—New public office : A. Robb & Sons, Edinburgh. Gloucester Telephone Exchange—Erection : The Building Guild, Ltd., Manchester. Holborn Telephone Exchange — Fire escape staircase : C. A. & A. W. Haward, London, W.C. Hollinwood—New roads, &c. : Thomas Coates, Bacup. Ipswich Sorting Office—Asphalte roofing : F. McNeill & Co., Ltd., London, E.C. Leeds Employment Exchange—Asphalte : The Northern Asphalte & Roofing Works Co., Ltd., Leeds. Lewisham Post Office—Alterations, &c. : A. G. Winters, London, S.E. Manchester, Grangethorpe Hospital—Brick and joinery works : J. B. Milner, Manchester ; plumber : H. Pennington, Manchester. Rampton Institution—Yard repairs : Dennett & Ingle, Ltd., Nottingham. Romford Post Office—Asphalte roofing : Engert & Rolfe, Ltd., London, E. Sheerness houses—Plastering : C. Grant, Bedford. Sheffield Telephone Exchange—Preliminary works : The Co-operative Wholesale Society, Ltd., Manchester. Southwick houses—Slating : J. E. Nelson, Sunderland. Warrington Post Office—Alterations, &c. : F. Warburton & Son, Warrington. Wigan—Hutting : J. W. Bywater, Wigan. Windsor Telephone Exchange—Asphalte : Engert & Rolfe, Ltd., London, E. ; joinery : J. G. Cherrington, Gerrard's Cross. Yiewsley—Houses, &c. : Roberts (Birmingham), Ltd., Birmingham.

Engineering Services : Lancaster Post Office—Heating : T. Blackburn & Sons, Ltd., Preston. Leeds Employment Exchange—Heating : H. Braithwaite & Co., Ltd., Leeds.

Joinery : J. Gerrard & Sons (1920), Ltd., Manchester ; E. Morley & Sons, Derby ; H. Newsum, Sons & Co. Ltd., London, E.C.

Painting, etc. : A. Bagnall & Sons, Ltd., Shipley ; Edwards Construction Co., Ltd., London, S.E. ; Vigor & Co. (Poplar), Ltd., London, E.

HOVE.—For painting, &c., at Public Baths, Livingston-road : enlarging the lavatory for women at Hove Park, for the T.C. Mr. H. H. Scott, Borough Surveyor, Hove :—

Lavatory, Hove Park—
*The National Building Guild, Ltd., Manchester £140

Painting at Baths—
*The National Building Guild, Ltd., Manchester 56

HOVE.—For laying 3 tarred macadam lawn tennis courts on the Western Lawns, for the T.C. Mr. H. H. Scott, Borough Surveyor, Hove :—

Constable Hart & Co., Ltd., London £462 2 8

IPSWICH.—For erection of the Halesworth proposed new school for about 360 children, for the East Suffolk County Education Committee. Mr. J. Webb, Committee's Architect, County Hall, Ipswich :—

Walter Everett, Southend-on-Sea	£19,495 7 0
C. Maidwell & Co., Ltd., Great Finborough	15,435 14 8
S. A. Roper, Ipswich	13,400 0 0
T. H. Yelf, Norwich	12,340 0 0
Foster & Dicksee, Ltd., Rugby	12,965 0 0
J. Noller, Ipswich	12,815 0 0
J. W. Palmer, Aylsham	11,938 10 6
Wm. Church, Lowestoft	11,912 12 6
W. C. Morgan, Olney	11,735 3 6
W. J. Croft, Lowestoft	11,734 0 0
J. L. Woodhams & Sons, Bromley	11,479 0 0
C. A. Green, Ipswich	11,310 0 0
A. W. Fisk, Ipswich	11,242 1 9
A. Gibbs, Leiston	10,995 0 0
E. Howes, Bury St. Edmunds	10,945 15 11
Thurman, Ltd., Felixstowe	10,870 0 0
R. A. Evans & Co., Ltd., Lowestoft	10,760 0 0
Chapman & Johnson, Halesworth	10,526 4 0
F. E. Wright, Halesworth	10,448 0 0
V. A. Marriott, Ltd., Ipswich	10,435 0 0
A. J. Gibbons, Ipswich	10,327 7 0
S. E. Hodge, Bury St. Edmunds	10,305 10 0
Smyth Bros., Leiston	10,244 0 0
G. A. Kenney & Sons, Ipswich	9,862 0 0
G. R. King, Northampton	9,800 0 0
Wm. C. Reade, Aldeburgh	9,759 0 0
Frank A. Roper, Ipswich	9,648 0 0
Pollard & Skerritt, Ipswich	9,481 0 0
*E. J. W. Wilson, Stamford	8,595 12 4

LONDON.—For repairs and painting at the Receiving Home for Children, 11, Lloyd-avenue, for the Guardians of the Holborn Union. Mr. C. J. Cross, Clerk to the Guardians, Administrative Offices, 53, Clerkenwell-road, E.C.1 :—

*J. E. Ree, Leyton, E. £84 10

(Sixty-two tenders received, with prices ranging from £82 15s. to £350.)

LONDON.—Laying wood flooring in test room at generating station, for the Stepney B.C. :—

*Acme Flooring & Paving Co. £105 19

LONDON.—Supply of cleft chestnut fencing for Southfields Park, for the Wandsworth B.C. :—

*Victoria Fencing Co...825 yards at 2s. 3½d. per yard.
*Quenby, Fry & Co...Do. at 2s. 9½d. per yard

BRIERLEY HILL.—For erection of 25 non-parlour type houses on No. 2, Mill-street site, for the U.D.C. Mr. H. E. Farmer, 32, Paradise-street, Birmingham :—

Contractor and Address.	Type A2. Per 4 Pairs.	Type A2. Per 4 Block.	Type A2. Per 3 Block.	Type A3. Per 4 Pairs.	Type A3A. Per 1 Pair.	Average per House.	Estimate for 25 Houses.	Road and Sewer, &c.	Total Estimate.
No. of Houses Required.	8	4	3	8	2	—	25	—	—
W. Gregory & Son, Colwyn Bay	£6,000 0	£3,000 0	£2,250 0 0	£6,500 0	£1,650 0 0	£776 0 0	£19,400 0 0	£950 0 0	£20,350 0 0
Wm. Jackson, Birmingham	4,080 0	2,015 0	1,510 0 0	3,760 0	970 0 0	493 4 0	12,335 0 0	925 0 0	13,260 0 0
H. M. Grant & Co., Ltd., Birmingham	3,809 12	1,987 14	1,428 10 0	3,628 17	907 4 3	470 9 0	11,761 17 3	1,472 15 7	13,234 12 10
A. H. Guest, Ltd., Stourbridge	3,920 0	1,940 0	1,475 0 0	3,680 0	930 0 0	477 16 0	11,945 0 0	840 0 0	12,785 0 0
Meredith & Hingley, Cradley	3,726 14	1,893 19	1,368 2 3	3,555 8	888 17 0	457 6 0	11,433 0 3	1,011 16 3	12,444 16 6
Walter Jones & Sons, Westminster, S.W.1	2 only 762 0	15 only 6,300 0	—	3,120 0	—	407 6 0	10,182 0 0	1,651 7 1	11,833 7 1
G. S. Hensman, West Bromwich	3,480 0	1,720 0	1,305 0 0	3,400 0	850 0 0	430 4 0	10,755 0 0	999 10 0	11,754 10 0
Roberts (Birmingham), Ltd., Birmingham	3,368 0	1,624 0	1,233 0 0	3,048 0	762 0 0	401 8 0	10,035 0 0	1,518 0 0	11,553 0 0
W. Morley & Sons, Derby	3,280 0	1,650 0	1,225 0 0	3,080 0	770 0 0	400 4 0	10,005 0 0	1,253 0 0	11,258 0 0
Ernest Clarke, Melton Mowbray	3,352 0	1,676 0	1,237 0 0	3,184 0	796 0 0	409 16 0	10,245 0 0	905 0 0	11,150 0 0
Dare & Waring, Birmingham	3,176 0	1,588 0	1,191 0 0	3,104 0	776 0 0	393 8 0	9,835 0 0	937 0 0	10,772 0 0
Buttler Bros., Birmingham	3,280 0	1,640 0	1,230 0 0	2,960 0	740 0 0	394 0 0	9,850 0 0	897 18 6	10,747 18 6
Joseph M. Tate, Cradley	3,192 0	1,596 0	1,197 0 0	3,072 0	768 0 0	393 0 0	9,825 0 0	759 0 0	10,584 0 0
W. Higgins, Ltd., Northampton	3,040 0	1,510 0	1,135 0 0	2,920 0	730 0 0	373 8 0	9,335 0 0	1,125 0 0	10,460 0 0
B. Whitehouse & Co., Birmingham	3,040 0	1,500 0	1,120 0 0	2,860 0	715 0 0	369 8 0	9,235 0 0	1,024 0 0	10,259 0 0

LONDON.—Erection of (*a*) 20 houses on the Watney Estate, and (*b*) 20 houses on Furzedown Estate, for the Wandsworth B.C. :—

*(*a*) R. Bilham & Son	£509
*(*b*) F. T. Wooding & Sons	523

LONDON.—For tar macadam paving in Trinity-road, Fairfield, for the Wandsworth B.C. :—

*Constable Hart & Co.	£1,537

MIDDLESBROUGH.—Erection of granite cenotaph and ornamental gates, for the War Memorial Committee :—

*H. Coxhead & Co.	£12,000

OLDBURY.—For drainage falling into Oldbury from Smethwick Housing Scheme ; and 12 in. pumping main, for the T.C. :—

John Hunt & Sons, Smethwick.

SIAM AND CHINA.—It is reported that the contract for the steelwork of 18 bridges for the Royal Siamese State Railways has been secured by the Cleveland Bridge & Engineering Co., Darlington ; and that Messrs. Pearson & Sons, Ltd., have received the contract for building a bridge to span the Yellow River, for the Chinese Government. The latter contract is understood to represent £1,230,000.

SLEAFORD.—For tar-spraying about 70,000 super yards of roads, for the U.D.C. Mr. J. W. Bell, Clerk, 27, Carre-street, Sleaford :—

H. V. Smith & Co., Ltd., London.

SOUTHAMPTON.—For alterations to 20, Carlton-crescent, for the proposed ex-service men's club. Messrs. Hair & Bird, architects and surveyors, 23, Portland-terrace, Southampton :—

A. W. Perrott, Southampton	£230
A. E. Jukes & Sons, Southampton	198
G. E. Prince & Son, Southampton	178
*Jenkins & Sons, Southampton	175

STAFFORD.—For making-up streets, for the T.C. :—

*Emery & Co., Aston—	
Co-operative-street	£789 12 3
Alliance-street	646 9 4
Isaac Walton-street	570 7 10

STAINFORTH.—For erection of bakehouse, Church-road, near Doncaster, for Messrs. Atkinson Bros. Mr. P. A. Hinchliffe, architect, 14, Regent-street, Barnsley :—

*Mr. G. Porter, Stainforth	£610

STAINFORTH.—For erection of large shop, Silver street, near Doncaster, for Messrs. Barnes Bros. Mr. A. Pinder, architect, Doncaster :—

*Mr. Plastow, Doncaster.

SWANSEA.—For sewerage work in (*a*) Carmarthen and Middle-roads ; and (*b*) Bonymaen and Cwm-rhydyceirw, for the T.C. :—

*A. Farley—
(*a*) £5,742 3 8 ....(*b*) £2,715 8 8

WANDSWORTH.—For painting, &c., at the St. John's Hospital, for the Union :—

Domart, Kensington	£4,155 15 10
Gard & Sons, London	2,894 4 6
Shaw & Sons, London	2,300 0 0
Brittian, London	2,175 14 6
Anderson, Ltd., London	2,050 0 0
Cooper Upton, Ltd., London	1,928 0 0
Phelps & Wilton, Ltd., London	1,826 0 0
Sands, Tooting	1,800 17 8
Pitkin, London	1,696 0 0
Freeman, Ltd., Sutton	1,633 17 6
Bailey, London	1,616 0 0
Gabb, Ltd., London	1,566 15 0
Jones, South Farnborough	1,396 0 0
Bickerton, London	1,382 0 0
Flack, London	1,375 0 0
Rickey, Taylor & Co., London	1,360 10 0
Earl & Matthews, London	1,247 10 0
Carr, London	1,210 0 0
Carter, London	1,199 0 0
Wright, London	1,100 0 0
*Haslam & Son, Woolwich	1,026 10 0

WANDSWORTH.—For providing and fixing oak pale fencing (approximately 219 ft.) at St. James' Hospital, Balham, for the B.G. Mr. F. J. Curtis, Clerk, Union Offices, St. John's Hill, Wandsworth :—

Turner Riley & Co., Ltd., Putney	£648 0
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Bailey, London	569 0
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Ed *Laing's £20,853 12 4

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Dougill & Sons, Aysgarth.

Re-Election.

Mr. Ogley L. David, J.P., builder, Skewen, has been re-elected chairman of the Neath Rural District Council.

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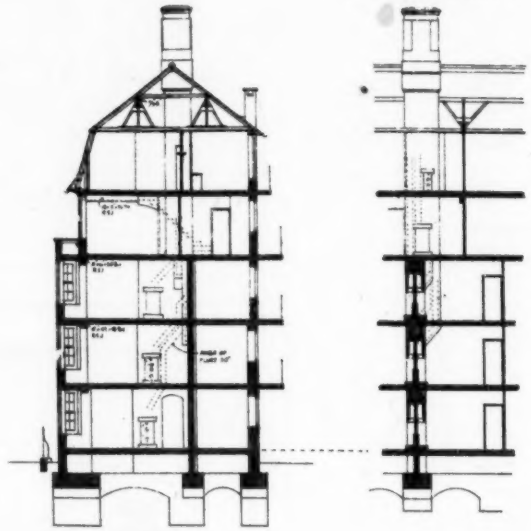
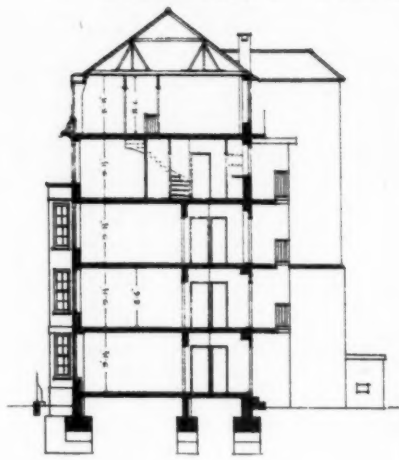
LONDON COUNTY COUNCIL TABARD GARDEN ESTATE.

GEOFFREY HOUSE.

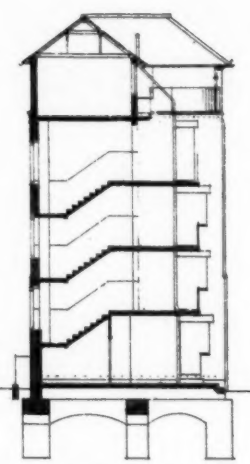


SECTION A-A.

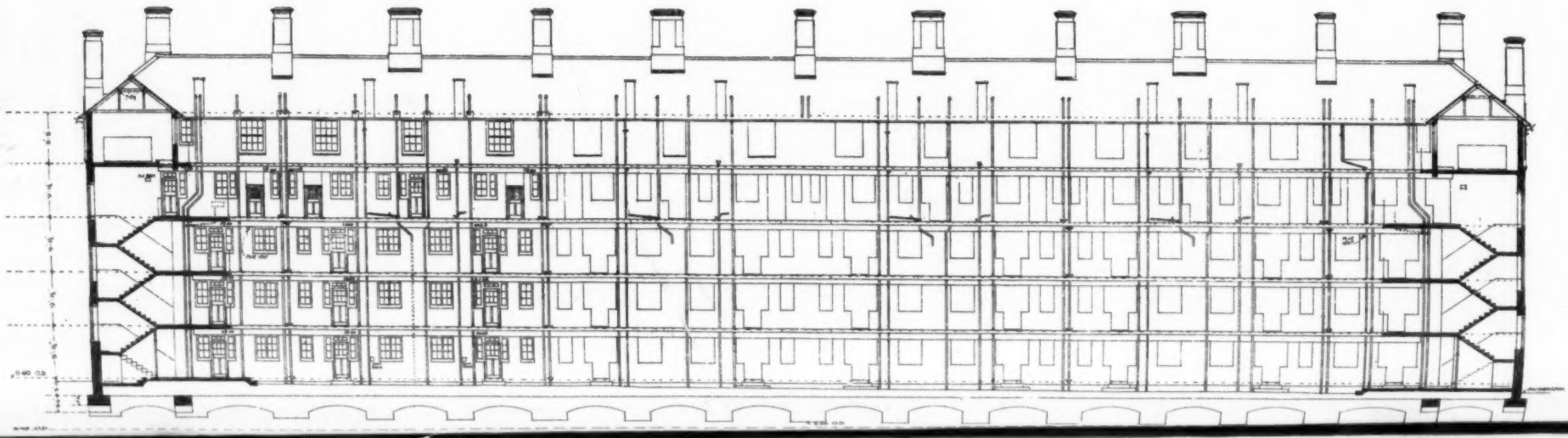
SECTION B-B.

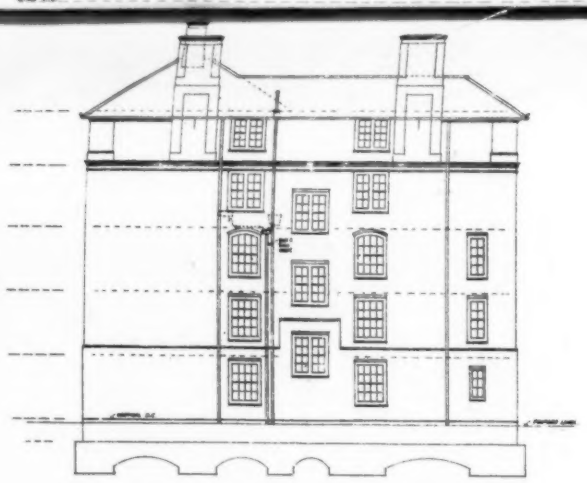


SECTION C-C.

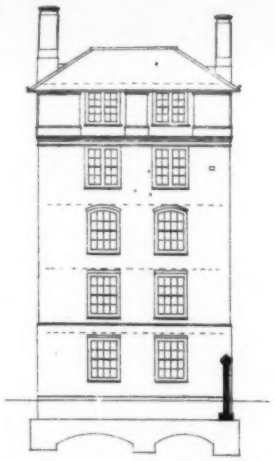


SECTION D-D.

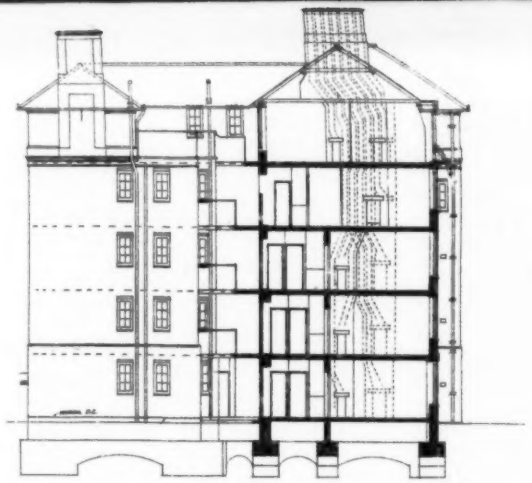




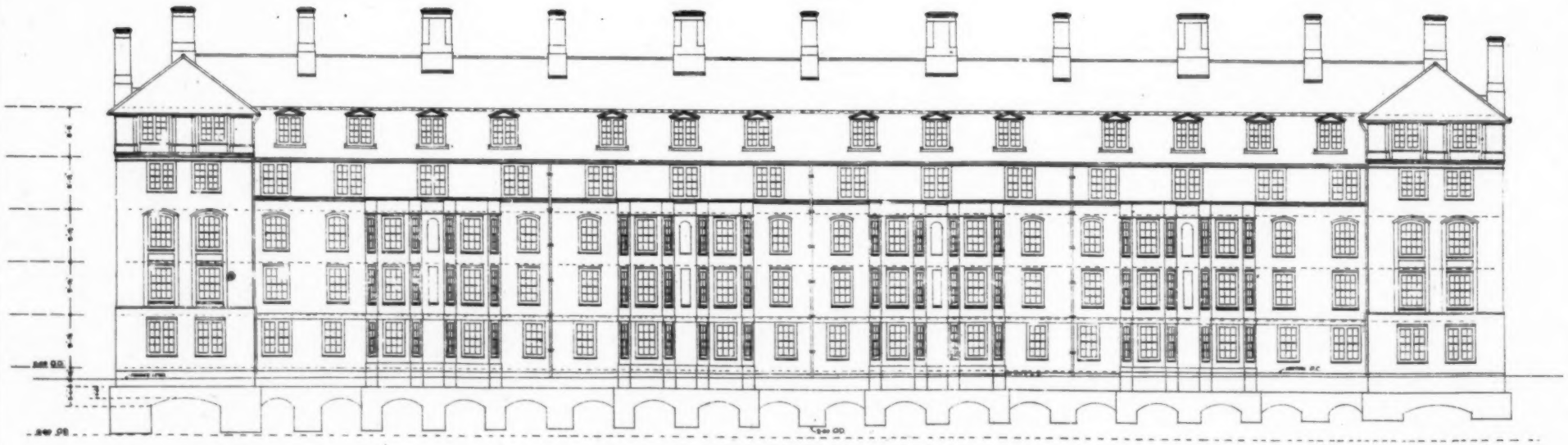
S.W. END ELEVATION.



ELEVATION TO PARDONER ST
S.W. END.



SECTION E.E.



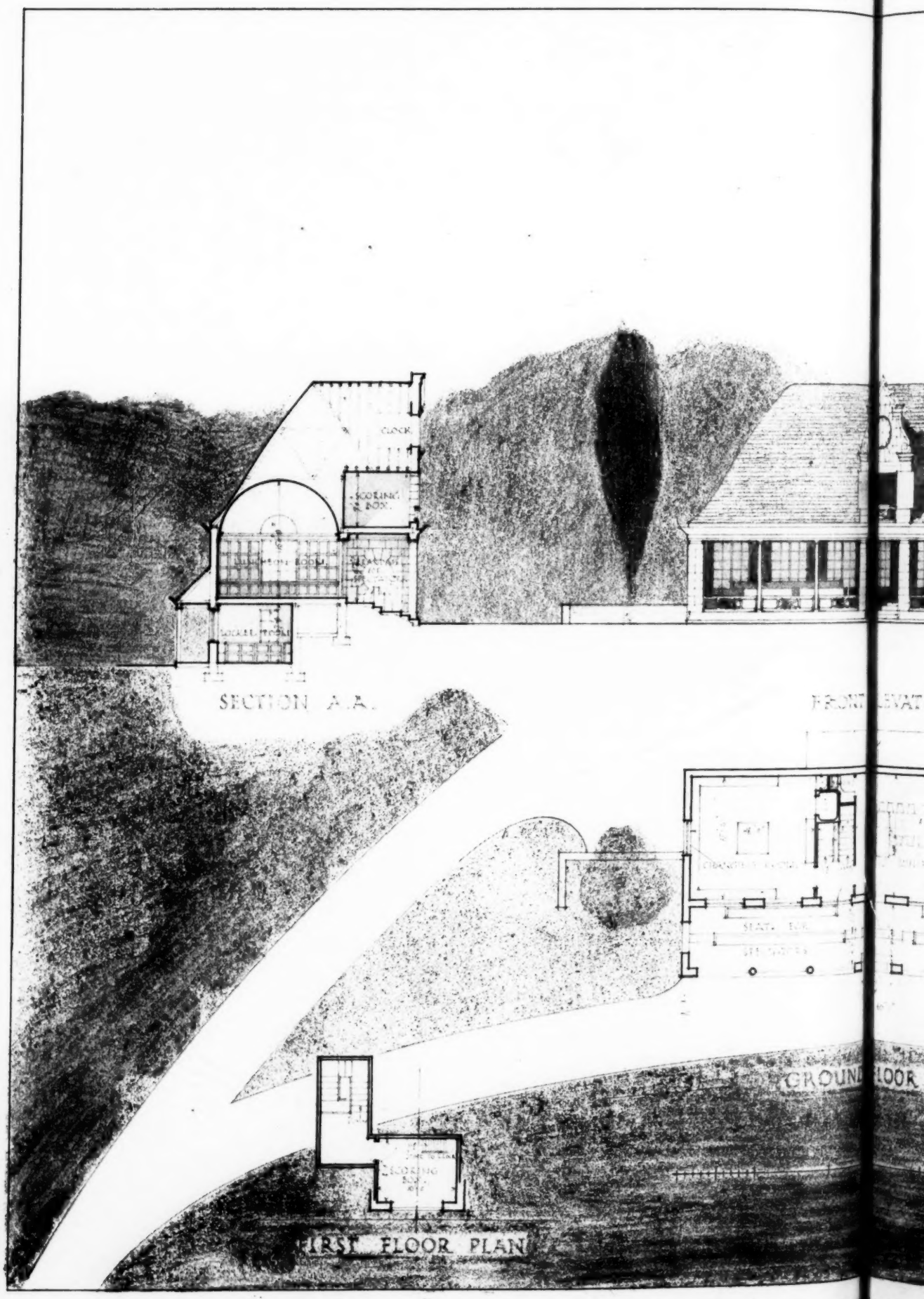
ELEVATION TO GARDEN.

SCALE 8 FEET TO 1 INCH

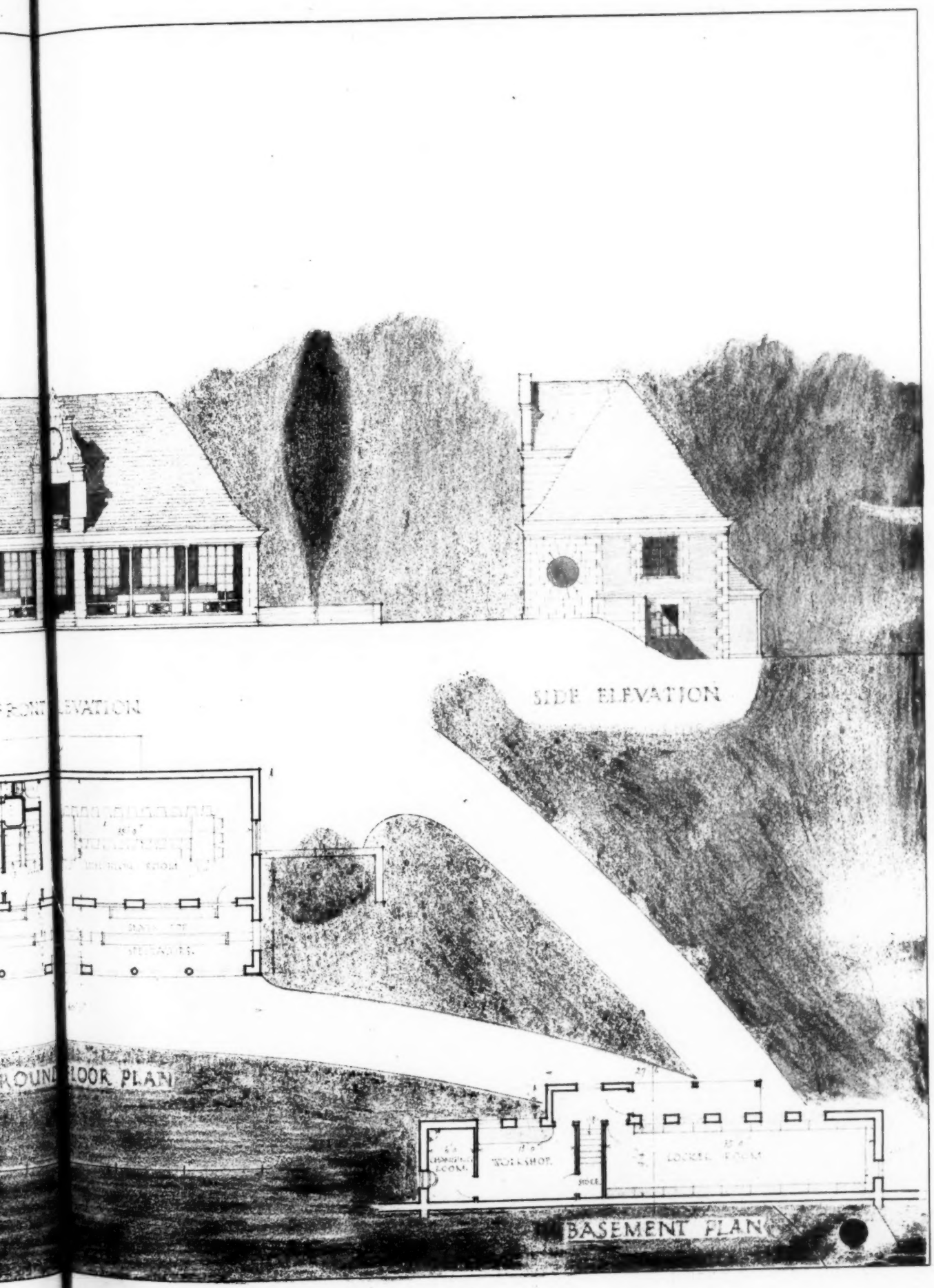
E. Topham Forrest
Architect to the Council.

MR. G. TOPHAM FORREST, F.R.I.B.A., ARCHITECT TO THE LONDON COUNTY COUNCIL.

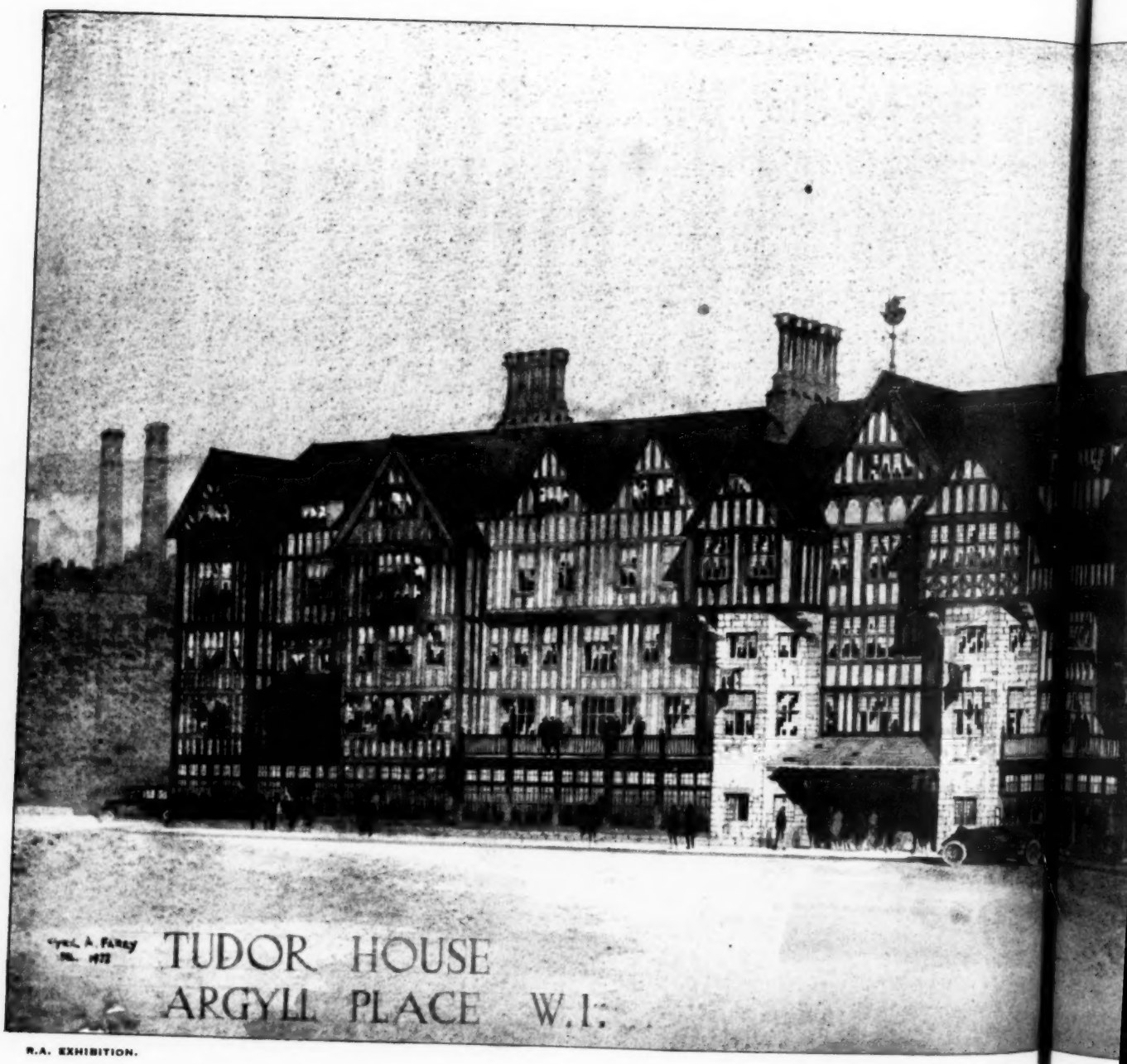
THE BUILDER, APRIL 28, 1922.



THE LEYS SCHOOL, CA GE: PROP
DESIGN PLACED FIRS Mr. A. G.



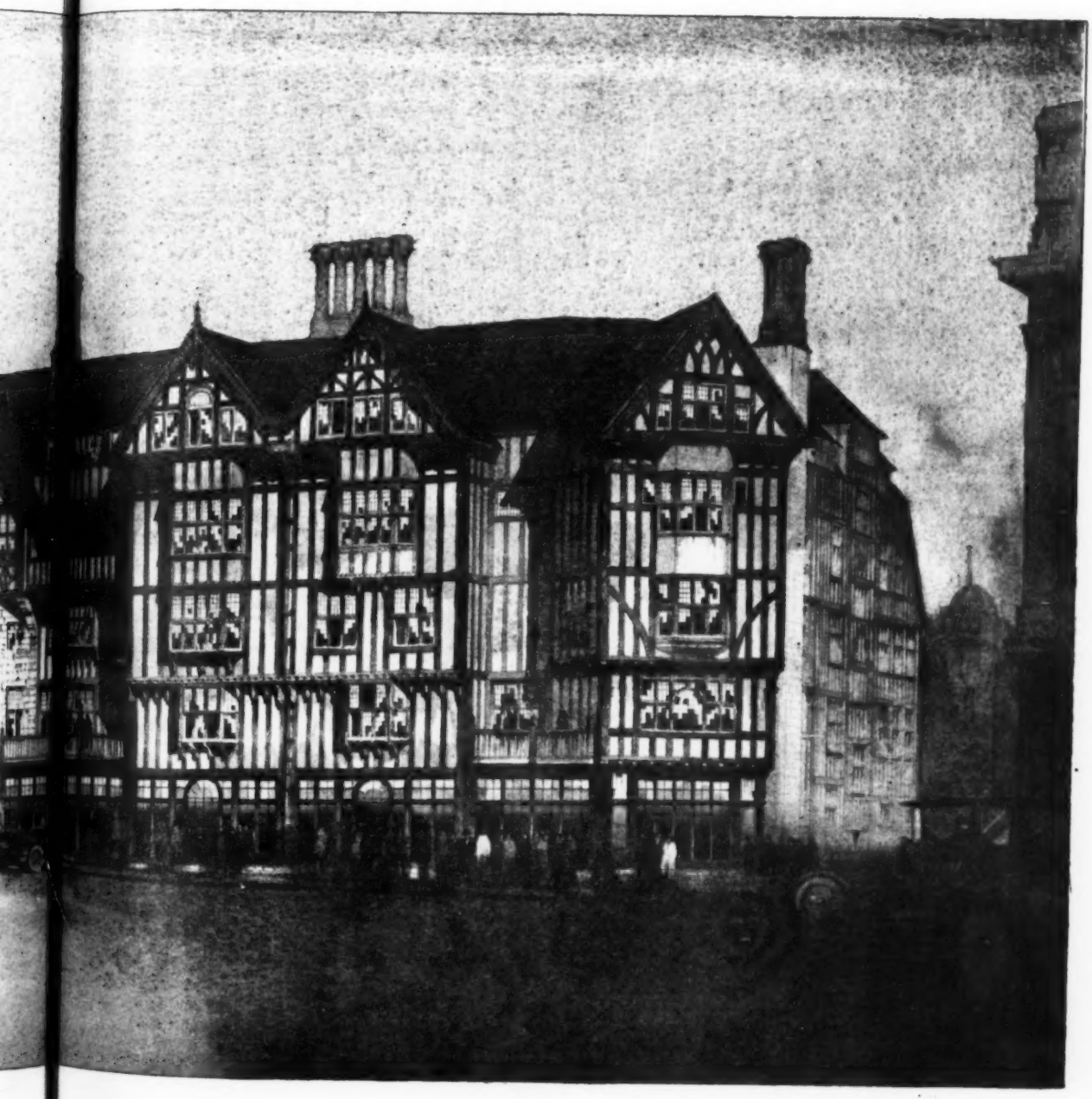
SCHOOL, CAMBRIDGE: PROPOSED GAMES PAVILION.
PLACED FIRST. MR. A. G. R. MACKENZIE, F.R.I.B.A.



TUDOR HOUSE
ARGYLL PLACE W.1.

R.A. EXHIBITION.

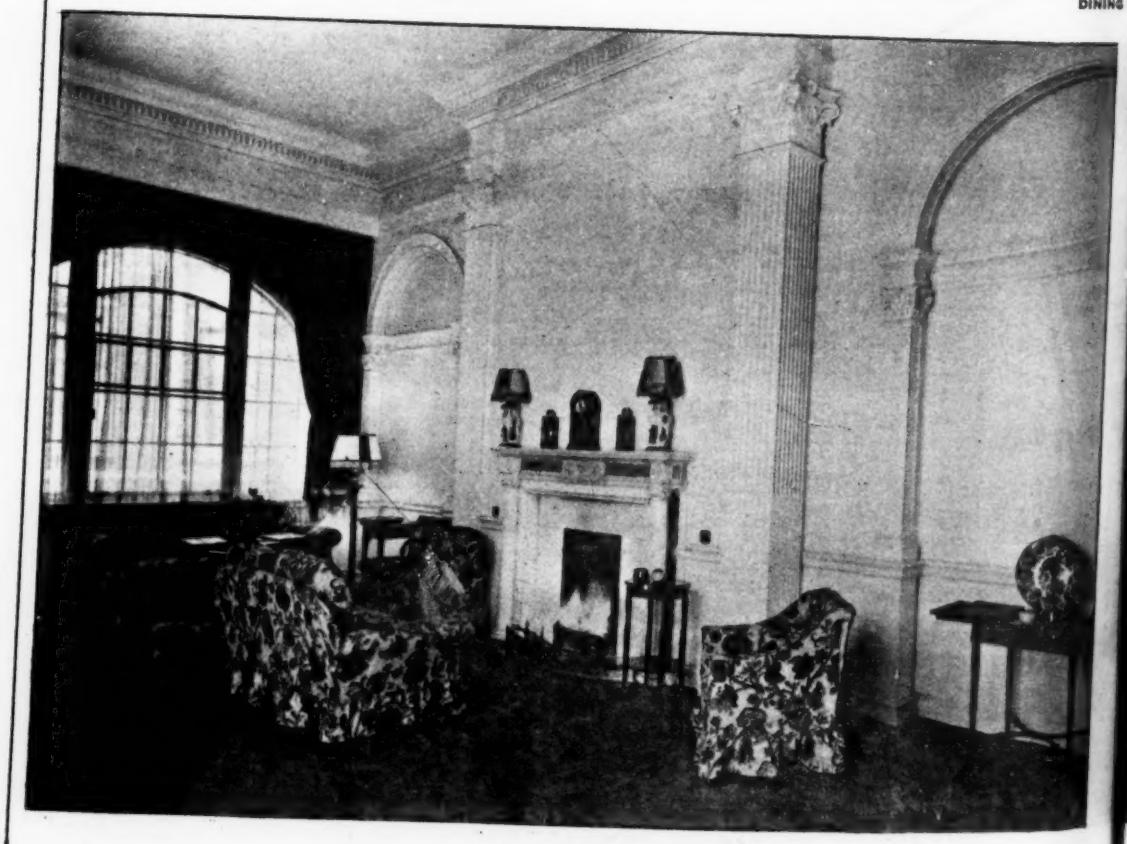
MESSRS. EDWIN T. HALL, F.R.I.B.A., & E. STANLEY [illegible], M.A., F.R



STANLEY ... M.A., F.R.I.B.A., ARCHITECTS.

LOWER CORRIDOR.

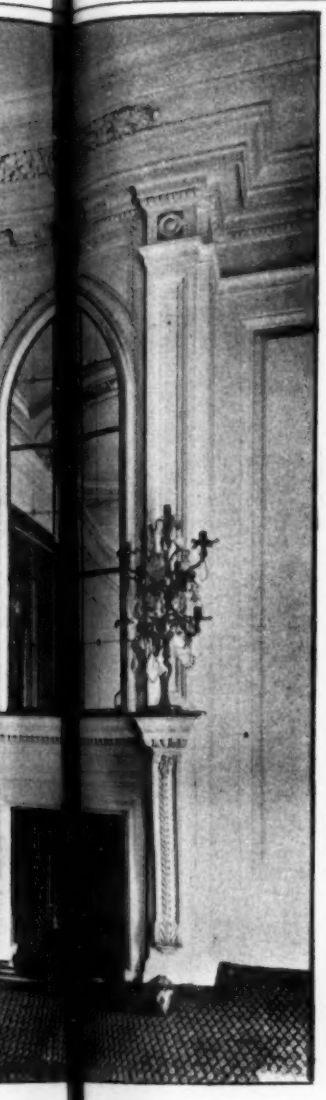
DINING R... FIREPLACE.



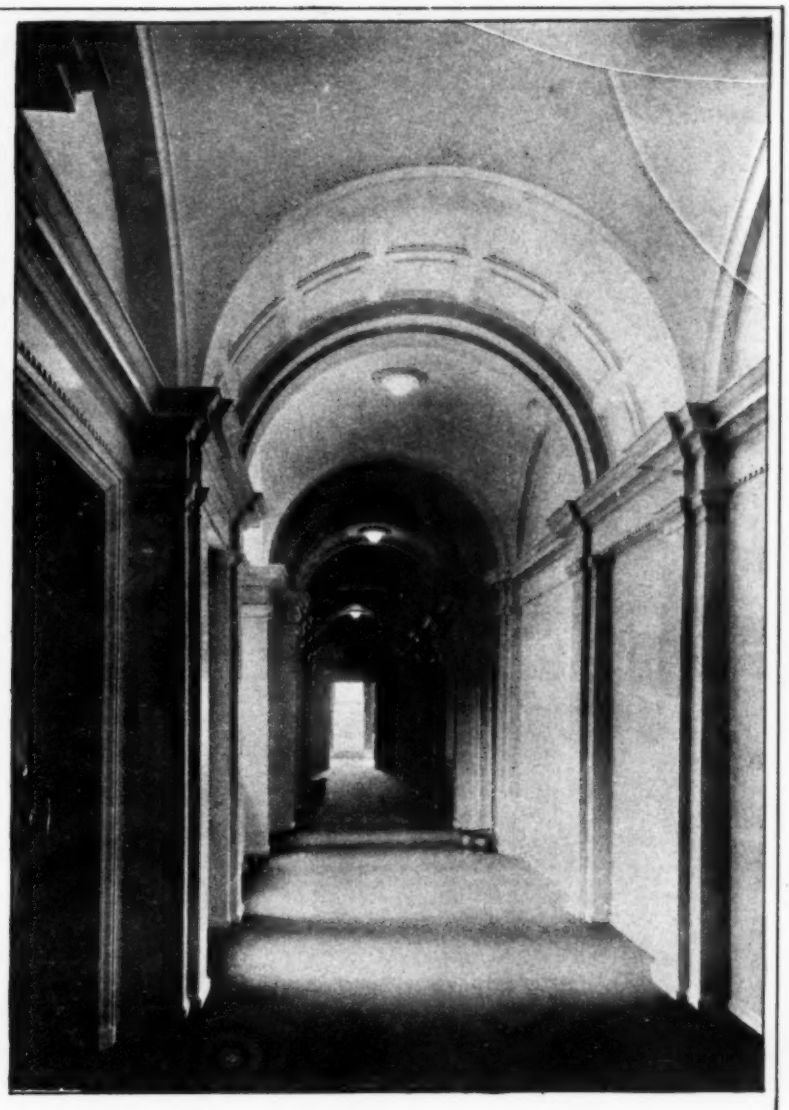
LADIES' DRAWING ROOM.

ROYAL AIR FORCE CLUB PRE... 128, PI...

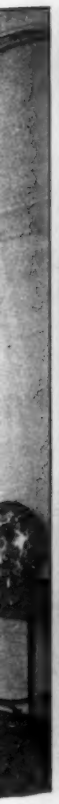
SIR ASTON WEBB, P.R.A., ... ARCHITE...

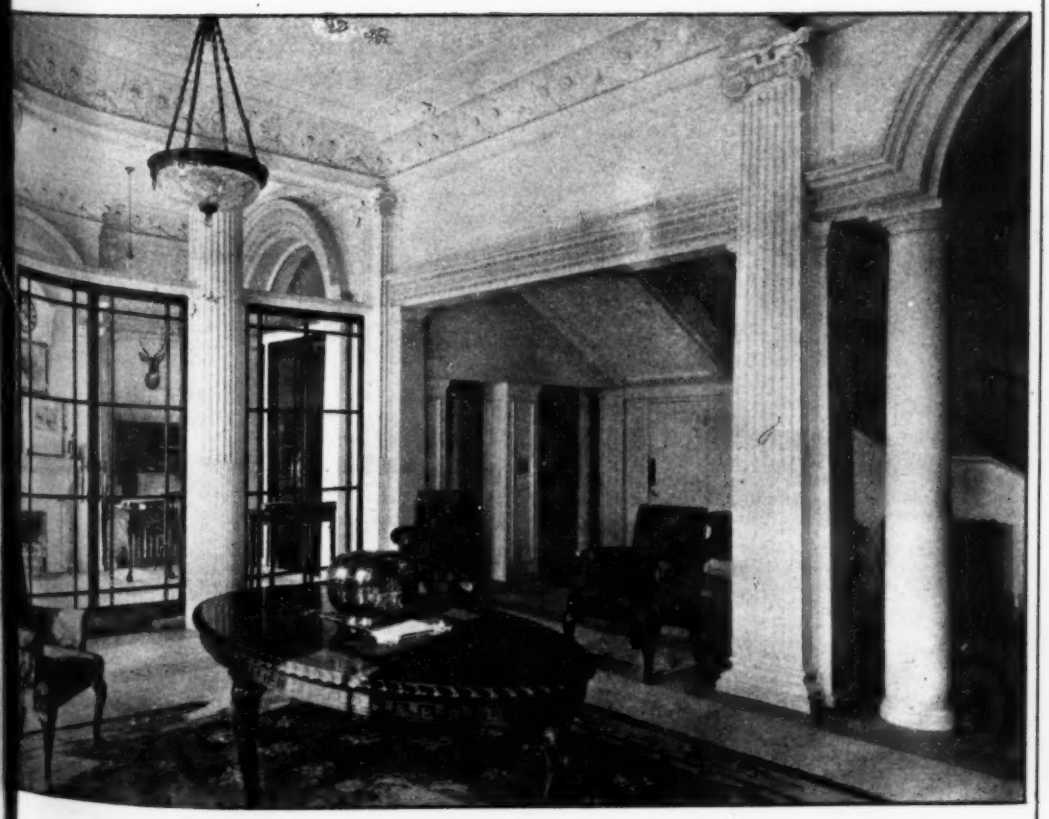


DINING R... FIREPLACE.



UPPER CORRIDOR.





HALL LOUNGE.

CLUB PRE... 128, PICCADILLY.

...BB, P.R.A. ..., ARCHITECTS.